

# User Manual

## MxVision AviationSentry® 4.2



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# Preface

Welcome to MxVision AviationSentry® 4.2! The goal of this user manual is to provide the information that you need to use MxVision AviationSentry in the most effective manner. The information is presented in an easy to follow, step-by-step format to show you how to use the variety of features in MxVision AviationSentry.

## Hardware and Software Requirements

MxVision AviationSentry runs on the Microsoft® Windows® platform and must also have at least the following:

### Stand Alone

- Windows 2000 or XP Home
- 733-MHz Pentium® III processor
- 256-megabytes (MB) of RAM
- 9-gigabytes (GB) of free hard drive space
- Monitor with a display capable of 800x600
- Available USB port
- CD-ROM drive
- Sound Card (optional)
- Printer (optional)

### Network

- Windows 2000 or NT (an AT-i960 board is required for Windows NT)
- 733-MHz Pentium III processor
- 256-MB RAM
- 9-GB of free hard drive space
- Available USB port

## Installing MxVision AviationSentry Software

The installation instructions are included in your software packet. If you have questions, contact customer service at <http://meteorlogix.custhelp.com>.

## New Authorizations

If you are setting up a new system, you will need to authorize your new MxVision AviationSentry after it is installed. When you initially set up your system you will have access to only the US Radar product. Monitor this product to make sure you receive updated data. If you do not receive current data, check your installation process. You must be authorized before you will receive the other products you have purchased. Use the following steps to set up your authorization:

**Note:** Make sure your satellite dish has been properly aligned!

1. On the USB Receiver press the **Align** button until the word **Authorized** appears on the left side of the screen. You should see **Authorized** on the left side and **No** on the right side of the screen.
2. Authorize your system using one of the following methods:
  - You should have received an e-mail which included a link to the authorization process via the Web. Click the link in that e-mail and follow the instructions.
  - Use the e-service site at <http://meteorlogix.custhelp.com>.
    1. Go to the **Product** menu and select **Authorization**.
    2. Click **Search**.
    3. From the list of answers select **Send my Data Authorization**.
    4. Follow the directions in the answer.
  - If you do not have Internet access call (800) 270-3207 and leave a message with your receiver number.
3. Once the authorization is received, the screen of the USB Receiver should read **Authorized** on the left side and **Yes** on the right side.
4. Restart MxVision AviationSentry by closing the application and reopening it to see the new products in MxVision AviationSentry. You do not need to restart the computer.

## Using This Manual

The *MxVision AviationSentry User Manual 4.2* contains instructions on the use of MxVision AviationSentry. It begins with an overview of the software and then advances through the various capabilities of the system.

*Chapter 1: Introduction.* Covers the setup of the user interface.

*Chapter 2: Displaying Data.* Explains how to display a variety of weather data.

*Chapter 3: Tracking Hazardous Weather.* Describes how to filter and track storms and display weather alerts.

*Chapter 4: Aviation Features.* Describes features available that pertain to aviation interests. This includes Route Brief, Airport Brief, accessing DUATS and NOTAMs via the Internet.

*Chapter 5: PrecipTimer™.* Explains how to set up and use the patent-pending precipitation timing feature.

*Chapter 6: Lightning Data.* Describes how to display lightning data and receive alerts of lightning activity using Lightning Manager®.

*Chapter 7: Alert Manager™.* Explains how to use Alert Manager. Alert Manager is an add-on package that displays and alerts you to National Weather Service watches, warnings, and advisories.

*Chapter 8: Local Forecast.* Explains how to setup and display tabular and graphical forecasts for a variety of cities.

*Chapter 9: Settings.* Describes how to adjust various parameters in MxVision AviationSentry.

## Typographical Conventions Used in This Manual

<b>Bold</b>	Window titles, tab titles, and tool names.
Times New Roman	Buttons, check boxes, and menu selections.
<Times New Roman>	Press a key on the keyboard.
<b>Lucida Console Bold</b>	Slider bars.

## Updates

This user manual will be updated as the system is enhanced. A Quick Reference Card, Release Notes, and Help Files are also available. These documents are available in Books Online. Click the Start button on your task bar and select **Programs > WeatherSentry > Books Online**.

The help files include tutorials demonstrating how to use several of the features in MxVision AviationSentry.

Press <F1> on the keyboard to view the current version of the software and current memory usage.

## For Additional Help

### Online Help

Online help files are available in MxVision AviationSentry. Click the Help button to access the Help files. Included with the Help are tutorials demonstrating the use of some key features in MxVision AviationSentry.



## Customer Service and Support

Our goal at Meteorlogix® is to be available to you when you need assistance. You can reach us using the following methods:

<b>Web site:</b>	<a href="http://meteorlogix.custhelp.com">http://meteorlogix.custhelp.com</a>
<b>Address:</b>	11400 Rupp Drive Minneapolis, MN 55337
<b>Fax:</b>	(952) 882-4500

If you do not have Internet access you can contact Customer Service at (800) 326-3272.

If you have any comments or suggestions concerning any MxVision AviationSentry documentation, please contact us <http://meteorlogix.custhelp.com>. Locate the “Documentation feedback for AviationSentry” answer and follow the instructions. You will need an account to use this feature.

The Meteorlogix staff is friendly and knowledgeable. We will work with you to find the solutions for any need you may have.



## Product Overview

Using MxVision AviationSentry® you can display a variety of weather data in an easy point-and-click manner. In addition you can display storm tracking and alert information. MxVision AviationSentry operates on the Microsoft® Windows® platform.

The many features of MxVision AviationSentry give you the flexibility to view a variety of weather data. In addition, several other features are available including:

- Displaying weather briefings along aviation routes.
- Displaying aviation weather Internet sites (*optional feature*).
- Displaying the AOPA airport directory (*if loaded on the MxVision AviationSentry system*).
- Storm tracking.
- Displaying current watches and warnings.
- Receiving alerts when watches, warnings, and advisories are issued (*add-on package*).
- Viewing lightning data and receiving alerts of lightning activity in your area (*add-on package*).

# Chapter 1: Introduction


This chapter provides an introduction to the interface and features of MxVision AviationSentry®.

## Starting and Exiting

Two methods are available to open MxVision AviationSentry:

- Double-click the AviationSentry icon.
- Go to the Start button on the Windows® task bar and select **Programs > AviationSentry > AviationSentry**.



Click the  in the upper right corner of the window to exit MxVision AviationSentry. If you have a locked down system you will need a password to exit MxVision AviationSentry.

## Layout

The MxVision AviationSentry user interface contains eight areas: Custom Logo, Product Display, Selection Buttons, Auxiliary Buttons, Toolbar, Communication Status, Product Title, and Info Box.

<b>Custom Logo</b>	Display your company's logo along side the Meteorlogix® logo.
<b>Product Display</b>	The product portion of the interface. Displays the selected product. The display is also used to select products.
<b>Selection Buttons</b>	Used to select the product groups. Once selected, specific products or product groups are available as thumbnails in the product display.
<b>Toolbar</b>	Access additional features and animate products.
<b>Auxiliary Buttons</b>	Access additional information and features.
<b>Communication Status</b>	Notifies the user of data interruptions.
<b>Product Title</b>	Shows the title of the product currently loaded in the product display.
<b>Info Box</b>	Displays the information at the mouse pointer.

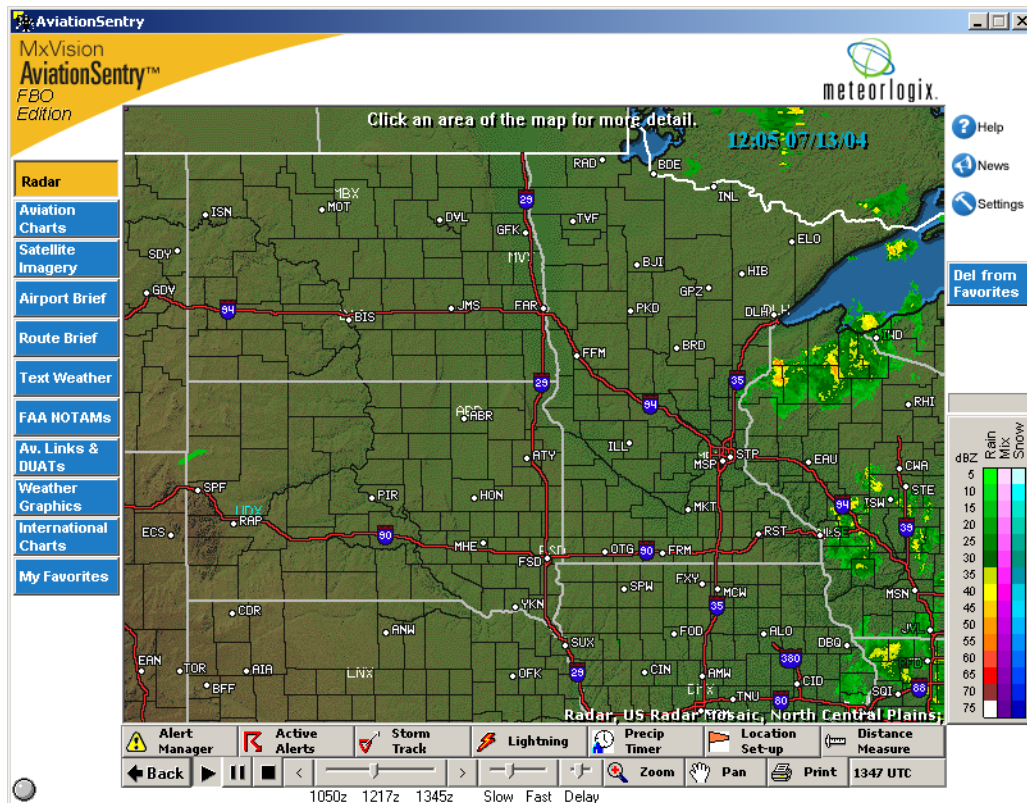


Figure 1-1: MxVision AviationSentry User Interface

## Custom Logo

You can display your company's logo in the top center portion of the MxVision AviationSentry interface. The logo will display to the right of the software title which is located in the upper left side of the interface. The maximum size this logo can be is 350 pixels wide by 46 pixels high.

To display your logo, you must save a version of the logo as one of the following (the file name must be "logo"):

- logo.bmp
- logo.jpg
- logo.gif

Any other file name will not be recognized by MxVision AviationSentry. Place the logo file in the same directory as AvSentry.exe (usually Program Files\Meteorlogix\AviationSentry). The software will automatically detect the file in that directory and display it in the interface.

## Product Display

The product display encompasses the majority of the user interface. The product display has two functions:

- Display the selected product.
- Display thumbnails after a selection button has been clicked.

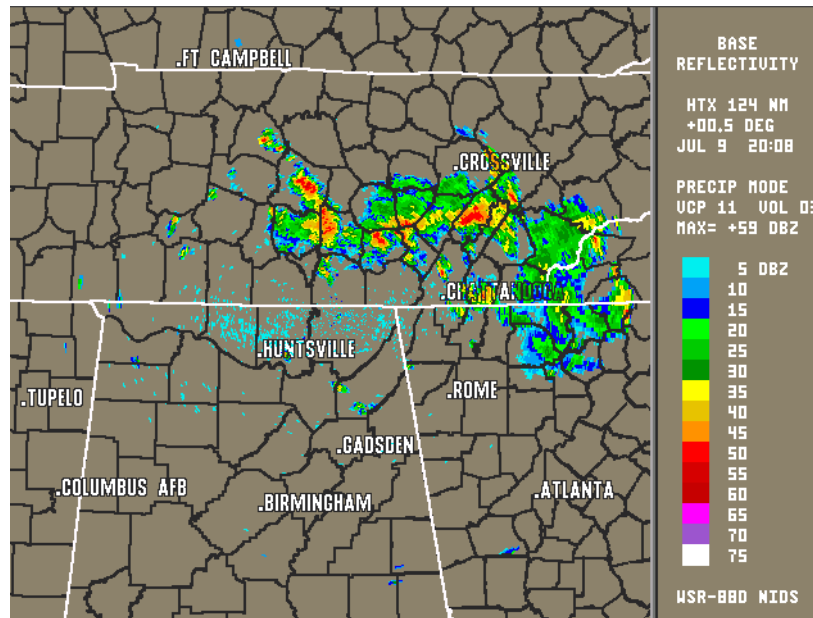


Figure 1-2: Product Display

## Selection Buttons

From the selection buttons you can choose from the general categories of products. You can also access Route Brief™, Airport Brief™, the Internet to view aviation-related Web sites, or DUATS to file a flight plan. Some of these features are optional, add-on features and may not be available on all systems. The FAA NOTAMS button is only available if the Show Internet Button is enabled under the **Internet** tab of the **MxVision AviationSentry Settings** window. The Av. Links & DUATS button is only available if the Show DUATS button is enabled under the **DUATS** tab of the **MxVision AviationSentry Settings** window. See Chapter 9.

More specific selections are made from the thumbnails and selection maps in the product display. The thumbnails and selection maps appear after clicking one of the product selection buttons.

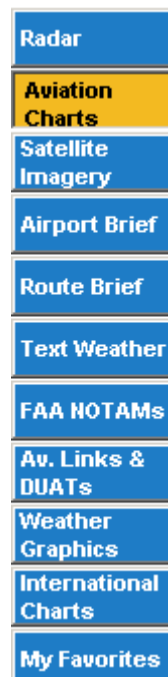








Figure 1-3: Selection Buttons
















## Auxiliary Buttons




Auxiliary buttons are located to the right of the product display. Using these buttons you can gain access to additional information and features of MxVision AviationSentry.

-  **Help** Access the help information for quick answers to any questions you may have about the software.
-  **News** View the latest news from Meteorlogix, including information on upcoming updates and new features.
-  **AOPA Directory** View the AOPA online directory if it is loaded on your system. This button will not appear if the directory is not loaded.
-  **Settings** Adjust the settings for MxVision AviationSentry. See Chapter 9.
-  **Add to My Favorites** Add the currently displayed product to My Favorites.
-  **Del from Favorites** Remove the currently displayed product from My Favorites.

## Toolbar

Located along the bottom of the product display. From the toolbar you have access to storm tracking, warning displays, and patent-pending PrecipTimer™ as well as tools to control the display and animations.

Icon	Description
 <b>Alert Manager</b>	Activate Alert Manager™. Not available on all systems.
 <b>Active Alerts</b>	Display active watches, warnings, and advisories.
 <b>Storm Track</b>	Display storm tracking symbols.
 <b>Lightning</b>	Display lightning data.
 <b>Precip Timer</b>	Activate patent-pending PrecipTimer.
 <b>Location Set-up</b>	Set a location for patent-pending PrecipTimer.
 <b>Distance Measure</b>	Measure distances.
 <b>Back</b>	Go to the previous level.
 <b>Play</b>	Play the animation.
 <b>Pause</b>	Pause the animation.
 <b>Stop</b>	Stop the animation.
 <b>&lt;</b>	Go back one frame.
 <b>&gt;</b>	Go forward one frame.

Icon	Description
 <b>Zoom</b>	Increase the magnification of the map.
 <b>Pan</b>	Re-center the map at the same zoom level.
 <b>Print</b>	Print the product in the display.
<b>09:59 AM CDT</b>	Current time.

Three slider bars are also located on the toolbar:

- Time** Move from one frame of the loop to another.
- Speed** Adjust the rate of the loop.
- Delay** Adjust the length of time the loop pauses on the last frame before restarting.



Figure 1-4: The three slider bars. From left to right: Time, Speed, and Delay.

## Communication Status

A status area is located in the lower left corner of the interface. This area indicates if there has been a loss or interruption of the data flow. Two situations can result in a message that appears in red: Data Interruption and Communication Interruption.

### Data Interruption

This message indicates that data has not been received by the ingest software. MxVision AviationSentry assumes a new file arrives every five minutes. If no data arrives after five minutes, this message will display in red and flash. Once a new data file is received, the message will disappear.

### Communication Interruption

This message indicates the client software is not in contact with the ingest processor (usually found on the server). This means that the client cannot be notified of new files. If this situation occurs, the message will appear in red and flash. Once the client has reconnected with the ingest processor, the message will disappear.

## Product Title

The product title is located in the lower right corner of the product display. The title provides the name of the product currently displayed in the product display. The format of the title includes the type of product along with other, more specific information about the product. For example:

Single Site Radar; Base Reflectivity; Minneapolis, MN; 0.5 degrees

**Live National Radar; United States**

Figure 1-5: Product Title

### Info Box

The info box is located below the Auxiliary Buttons. This box displays information based on the actual data in the display.

- For infrared satellite data, displays the calculated height of the clouds.
- For radar data, displays the type of precipitation and the reflectivity (in dBZ).



Snow 15dBZ

*Figure 1-6: Info Box*

## Chapter 2: Displaying Products

Products can easily be displayed using the mouse. In addition, once the product is selected, you can zoom into specific areas as well as loop a group of products or several frames of data.

### Displaying a Product

Products are displayed by clicking the selection buttons and then clicking the thumbnails in the product display. Use the following steps to display a product:

1. Click one of the selection buttons along the left side of the interface.
2. A menu with thumbnails will appear in the product display.
3. Click the thumbnail to display the product.
4. If additional thumbnails are displayed, continue to select thumbnails until the product displays.

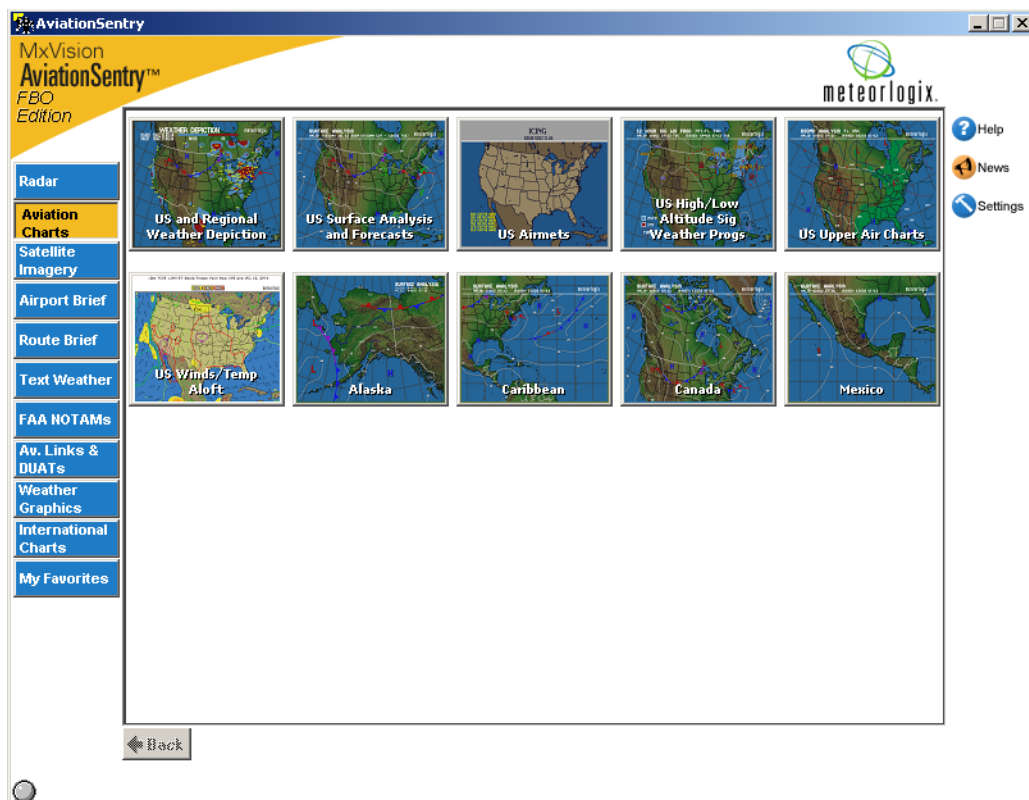


Figure 2-1: Product Display with Thumbnails

Occasionally, the number of thumbnails will exceed the space available on the display. In this case, a More thumbnail will appear in the lower right corner. Click it to see additional thumbnails.

### Selection Maps

Some products are selected in the product display using selection maps instead of thumbnails. This most commonly occurs with text products and single-site radar. Move about the map until the area to display the data is highlighted in yellow. Then, click with the left mouse button.

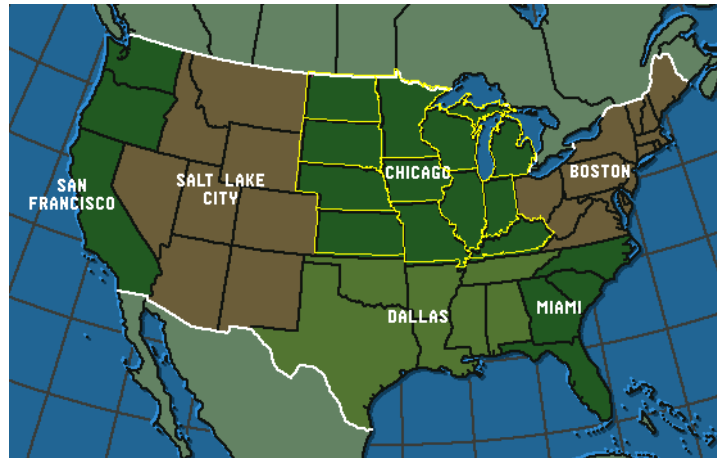


Figure 2-2: Selection Map

### Satellite Data Color Enhancement

Infrared satellite data can now be enhanced with color. Three color schemes are available to enhance certain cloud levels: Standard Curve, Colorized High, and Colorized Low.

Standard Curve	Gray-scale curve with 64 levels. Each level represents 1,000 feet in altitude.
Colorized High	Clouds above 30,000 feet are enhanced with color.
Colorized Low	Clouds between 10,000 and 40,000 feet are enhanced.

Right-click over the satellite image to select a color enhancement. From the menu select one of the three color schemes. A legend will also appear.

Right-click over an infrared satellite image and select Curve Info from the menu to get detailed descriptions of the three curves. A box with descriptions of the curves will appear. Click Close to close the description box.

## Cloud Top Heights

The estimated height of cloud tops on infrared satellite data are available in the legend located to the right of the display. The heights are displayed in hundreds of feet (for example 370 represents 37,000 feet). The cloud top heights are available for infrared satellite only.

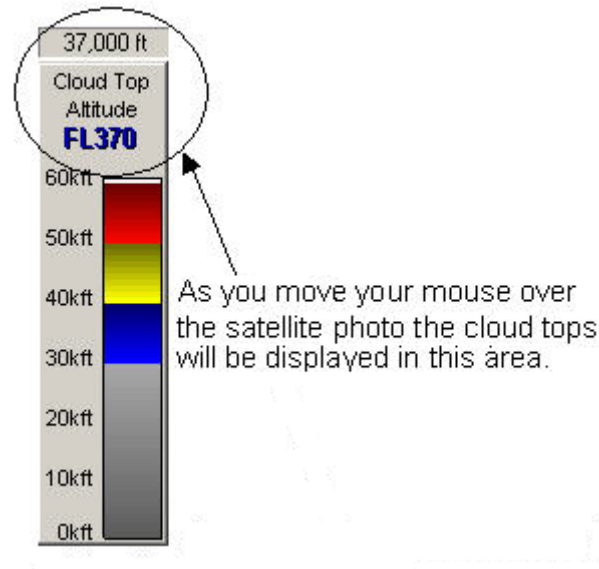


Figure 2-3: Cloud Top Height

## My Favorites

You can add products and icons to a product list called My Favorites. Using this feature you can place all the products you access regularly under one selection button for quicker access. No need to go to several selection buttons to display products you view frequently.

### Adding Products

Use the following steps to add a product to My Favorites:

1. Select the product.
2. Click Add to My Favorites.
3. The product will be added and can now be found under the My Favorites selection button.

Add to My  
Favorites

### Accessing Products

Use the following steps to access a product you saved under My Favorites:

1. Click the My Favorites selection button.
2. Click the product thumbnail.
3. The product will display.

My Favorites

### Removing Products

Use the following steps to delete a product from My Favorites:

1. Select the product.
2. Click Del From Favorites.
3. The product will be removed from My Favorites. The product will only be removed from My Favorites. It will remain available under the product selection button.

Del from  
Favorites

### Tropical Weather Reports

Tropical Data is an add-on feature to MxVision AviationSentry®.

Text tropical weather reports are available under the Text Weather selection button. Using this option, you can display a variety of tropical text products. These products include statements from the Tropical Prediction Center and local National Weather Service offices.

Click to place a check mark next to the products to view. Any product with a check mark will be displayed. Enable Select All Reports to view all the products. Once the product types are selected, click Show Text to view the actual products.



Figure 2-4: Tropical Weather Reports

Use the following steps to view a tropical text product:

1. Click the Text Weather selection button.
2. Click Tropical Weather.
3. The **Tropical Weather Reports** window will appear.
4. Choose the products by clicking the boxes next to the product. Any product with a check mark will be displayed. More than one product can be selected. Enable Select All Reports to view all the products.
5. Click Show Text to display the text.

### News From Meteorlogix®

Updates on products and services are provided by Meteorlogix® as well as status messages from Meteorlogix are also available. Click the News button available to the right of the product display to access the information. When a new message is received, the News button will flash until you click it to receive the message.



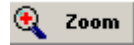
## Changing the View

The view of the product in the display can be adjusted by zooming and panning.

### Zoom In

Three methods are available to zoom into a product.

- Select the **Zoom** icon from the toolbar. A box will appear. Move the box to the area to zoom into and left-click. The area inside the box will be displayed at a magnification of two-times the previous image. You can continue to zoom in up to a magnification of 16-times the original image.
- Right-click at the center of the area to zoom into. Select Zoom In from the menu and the map will magnify to two-times the previous image. You can continue to zoom in up to a magnification of 16-times the original image.
- For radar and satellite data you can click anywhere on a national map to zoom into regional product. On a regional radar product, left-click and the zoom in box will appear. The **Zoom** icon does not need to be active to use this feature.

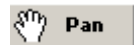


### Zoom Out

Right-click anywhere in the product display and select Zoom Out from the menu to zoom out. This will zoom back to the fullest extent of the display. You can only zoom out to the fullest extent of the display.

### Pan

Click the **Pan** icon from the toolbar to re-center a map that has been zoomed in. The pointer in the product display will turn to a hand and the word *Grab* will appear. Left-click and drag the map to the new center point. As you move the map, *Grab* will change to *Move*.



## Viewing Nearby Products

You can view another area of the currently displayed infrared (IR) satellite or single-site radar product by simply clicking in the direction of the new area. The next closest product you are authorized for will appear. For example, if you are viewing the North Central US IR satellite you can click anywhere in the far right portion of the display to view the Northeast IR US satellite. This feature is only available for IR satellite and regional radar products.

## Measure Distance

You can measure distance and direction. This feature is only available for some products. If this feature is not available, a message box will appear alerting you to the unavailability. Use the following steps to determine the arrival time:

1. Click the **Distance Measure** icon.
2. Left-click and hold at the point to start the measurement.
3. While continuing to hold down the mouse button, drag the line to the second endpoint.
4. Release the mouse button.
5. The distance will appear along the side of the arrow and the compass direction will appear at the end of the corridor. The distance and compass direction will also appear in the upper left corner. The corridor will remain in the product display until you click the **Distance Measure** icon a second time. The data in the upper left corner will remain as long as the radar or satellite is not animating.

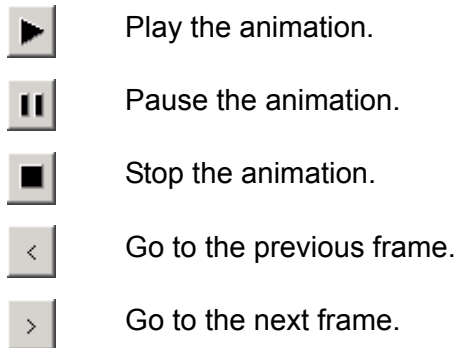




### Animating Data

You can control the animation of any product with more than one frame (satellite, radar, etc.). The animation controls are located on the toolbar below the product display.

Use the following icons to control the animation:



Three slider bars are available to control the animation:

- |              |   |
|--------------|---|
| <b>Time</b>  | Controls which frame is currently viewed. The earliest frame is at the left end of the slider bar and the latest frame is at the right end of the slider bar. |
| <b>Speed</b> | Controls how fast the animation runs. The further to the left, the slower the loop.   |
| <b>Delay</b> | Controls how long the animation pauses on the last frame before restarting. The further to the right, the longer the delay.                                   |



Figure 2-5: The three slider bars. From left to right: Time, Speed, and Delay.

Drag the pointer back and forth to move about the slider bar. You can also click at the point on the slider bar to move the pointer. The bar will jump to that point.

The number of frames in the loop is set under the **General** tab of the **MxVision AviationSentry Settings** window. Click the Settings button located to the right of the product display to access the window. The default setting is 12 hours for satellite data and three hours for radar data. These settings are not editable. See Chapter 9.

You can also navigate through some sets of products using the animation controls. The sets of products are determined by the selection buttons and your authorization list. The sets of products cannot be customized.

Select a product to navigate through a set of products. Then, use the animation controls to loop through the other products under the same selection button as the first product you selected. When the loop reaches the last product, it will return to the first product in the list. For example, if you select a product under the Current Conditions selection button, when you use the animation tools you will move through the other products available under Current Conditions.

## Screen Saver

A slide show of Meteorlogix products will begin after MxVision AviationSentry has been idle for a period of time. The default time period is 10 minutes, but if the system is not locked down the time can be modified. The products contained in the slide show cannot be modified.

For users of a locked-down system, this will be the default screen saver. For clients that are not locked-down, this screen saver will be added to the list of screen savers in the **Display Properties** of each computer. Select the Meteorlogix screen saver by opening the **Control Panel**, selecting the **Display** icon, and going to the **Screen Saver** tab. Select Meteorlogix Data from the list of screen savers.

## Screen Saver Settings

The appearance of the screen saver can be adjusted here. You can select which products will be displayed, whether one or four products will be displayed at once, and how fast the products will animate. Four sections are available: **Screen Saver Type**, **Products**, **Display**, and **Data Path**.

### Screen Saver Type

Choose the appearance of the screen saver in this section. The screen saver can consist of the Meteorlogix logo or a slide show of products.

- Click Meteorlogix Logo to display just the logo.
- Click Slide Show to display a series of products. Two options are available:
 

Selected Products	Display a slide show of the products enabled under <b>Products</b> .
My Favorite Products	Display a slide show of the products stored under the My Favorites selection button except local forecasts. The <b>Products</b> section will not be available.

### Products

Under this section you can choose the products to display in the screen saver. Any product with a check mark will be displayed. This section will only be available if Selected Products was enabled under **Screen Saver Type**.

### Display

The appearance of the screen saver and animation rates is selected under this section.

- Two options are available for the appearance:
 

Full Screen	Display one product at a time and uses the entire screen.
Four Panel	Displays four products at one time in panels that take up a quarter of the screen.
- Adjust how fast the slide show animates using the **Animation Rate** slider bar.

### Data Path

Enter the path to the weather data in this section. Click the button with three dots to look for the directory.

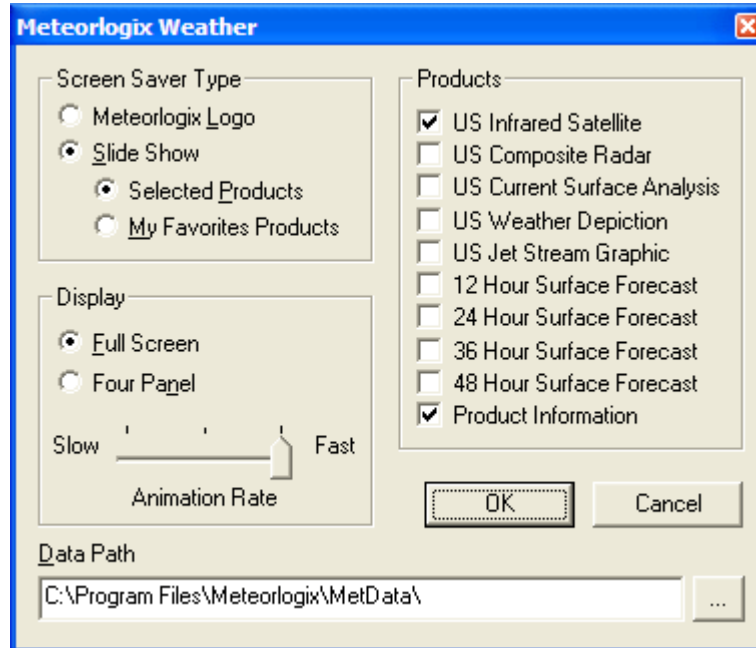


Figure 2-6: Screen Saver Settings


## Chapter 3: Tracking Hazardous Weather

Two methods are available to track hazardous weather. One is to display symbols and arrows that indicate the strength and direction of movement. The second method is by displaying active watches, warnings, and advisories.

### Storm Tracking

Storms can be tracked and additional information can be displayed about each storm cell. Storm tracking is available for radar and infrared satellite products. Use the following steps to track a storm:

1. Load radar or infrared satellite data.
2. Stop radar or satellite animation.
3. Click the **Storm Track** icon.
4. Several types of information will appear:
 



  - The symbols will appear displaying the storm attributes and an arrow displaying direction and speed of movement. A longer arrow represents a faster movement.
  - A legend will appear.
  - The word `Info` will appear next to the mouse pointer if there are storm cells to track.
  - On national and regional composite radars and infrared satellite, the echo top and speed of movement will appear next to the symbol in the format FL352/21KT. An arrow will display direction of movement with the length proportional to the speed of movement. The shadow of the arrow also indicates the echo top. Each pixel width indicates 10,000 feet in height of the echo.

FL	Flight Level
352	Echo top at 35,200 feet.
21KT	Storm is moving at 21 knots.
5. Left-click the storm symbol to display more information about the storm.
6. If several storms are clustered together, the **Storm Track Information** window will appear. Select the storm of interest.
7. The **Storm Track** window will appear.

### Storm Track

Three tabs are available in the **Storm Track** window: **City List**, **Storm Properties**, and **Nearby Storms**. The **Nearby Storms** tab will only appear if other storms are located close to the selected storm.

### City List

Under this tab is a list of the cities in the path of the storm. Some general information about the storm is also available.

- At the top of the tab is the **Storm ID**. This identification consists of the radar identifier and the identifier of the actual storm from the NEXRAD attribute table.
- The main portion of the window lists the cities in the path and the expected time the storm will affect each city.
- The time the data is based on is located at the top of the window. This is the time of the radar scan.
- General information on the direction and speed of movement, what attribute is present (for example: possible hail), and the height of the echo is listed down the right side of the **City List** tab.

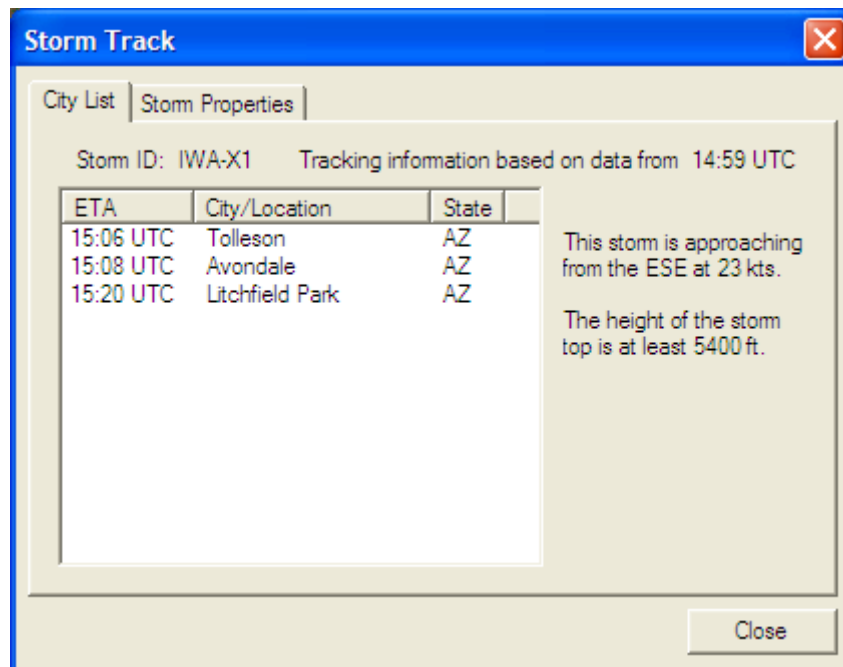


Figure 3-1: City List

### Storm Properties

Under this tab you can see the actual characteristics of the storm. This information is based on the attribute table from the NEXRAD.

<b>Storm Position</b>	Latitude and longitude of the center of the storm.
<b>Storm Movement</b>	Direction and speed of storm movement.
<b>Cell Measurements</b>	The maximum reflectivity, echo top, and vertically integrated liquid (VIL).
<b>Hail</b>	The probability of any size hail, probability of severe hail, and maximum hail size.
<b>Characteristics</b>	If the storm contains a mesocyclone or tornadic vortex signature (TVS).

**Storm Track**

City List | **Storm Properties**

Storm ID: EWX-V9      Based on data from 16:33 UTC

Storm Position  
 Latitude: N 30.153°  
 Longitude: W 097.083°

Storm Movement  
 Approaching from 219° (SW)  
 Moving to 039° (NE) at 16 kts

Cell Measurements  
 Max dBZ: 33 at 10900 ft  
 Echo top of storm: 10900 ft  
 Vert. Int. Liquid: 1 kg/m2

Hail  
 Prob. of any size hail: 0%  
 Prob. of severe hail: 0%  
 Max expected hail size: 0.00 in

Characteristics  
 Tornado Vortex Signature (TVS): None  
 Mesocyclone: None

Close

Figure 3-2: Storm Properties

### Nearby Storms

Occasionally several storms will overlap or will be duplicated from a nearby radar. These storms will be listed under the **Nearby Storms** tab of the **Storm Track** window. This tab is only available if there are nearby storms. Storms cannot be selected from this window.

**Storm Track**

City List | Storm Properties | **Nearby Storms**

The following storms are near the selected one (DYX-C1) or are duplicates from overlapping radar coverage.

Storm information based on data from 18:55 UTC

Storm ID	Maximum dBZ	Echo Top	VIL	Hail	Severe	Size
<input type="checkbox"/> DYX-C1	43 @ 7000 ft	14200 ft	4	0%	0%	
<input type="checkbox"/> FWS-P2	50 @ 9500 ft	18900 ft	11	0%	0%	

Close

Figure 3-3: Nearby Storms

### Storm Filters

A storm track filter can be customized to track the storms that could be hazardous to you or your business. Several default filters have been created by Meteorlogix®. You can also create your own filter by basing one on a pre-existing filter or by creating a new one and basing the new filter on the pre-existing filter.

The filter determines the value certain attributes (reflectivity, speed, percent chance of hail, etc.) must reach before a storm tracking symbol and arrow will appear when the storm tracking icon is clicked. Only one filter can be active at a time. The filter will go into effect immediately upon selection.

### Setting Existing Filters

Use the following steps to set a filter that has been already created:

1. Click the Settings button.
2. Go to the **Storm Tracking** tab.
3. Choose a filter from the **Preset Filter** drop down menu.
4. The new filter will go into effect immediately and be in effect until a new filter is selected.

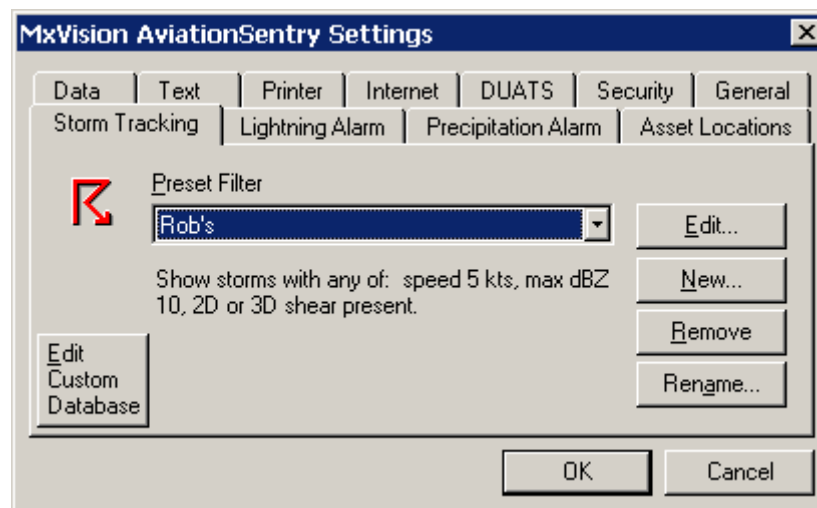


Figure 3-4: Storm Tracking Settings

### Creating a New Filter

Use the following steps to create a new filter.

1. Click the Settings button.
2. Go to the **Storm Tracking** tab.
3. Click New.





Figure 3-5: New Storm Tracking Filter

4. Enter a name for the filter in **Filter Name**.
5. Under **What kind of filter do you want to create?** select whether to create the filter from scratch or base it on settings from a previously created filter. If you base the new settings on an already existing filter, select the filter from the drop down menu.
6. Click OK.
7. **AviationSentry Storm Tracking Setup** will open.
8. Under **Radar Site Selection**, select whether to display data from one radar or all available radars. Storm tracking data is only available from radar you are authorized for.
9. Under **Storm Filter**, select the attributes and values. Select whether all or any combination of the attributes need to be present before the storm is tracked. If you select all then everyone of the attribute settings must be detected in the storm before the storm is tracked. See **Storm Filter Settings** on page page 3-7 for more details.
10. Under the **City Database Directory and Corridor Setup** tab, enter the city database and the settings for the storm corridor. See **Database and Corridor Setup** on page page 3-8 for more details.
11. Click OK.

## Editing Filter Settings

Use the following steps to edit and existing filter:

1. Click the Settings button.
2. Go to the **Storm Tracking** tab.
3. Select a filter to edit.
4. Click Edit.
5. **AviationSentry Storm Tracking Setup** will open. See **Storm Filter Settings** on page page 3-7 for more details on each attribute.
6. Make the changes.
7. Click OK.





### Renaming Storm Filters

Use the following steps to give a filter a new name.

**Note:** The default filter cannot be renamed.

1. Click the Settings button.
2. Go to the **Storm Tracking** tab.
3. Select the filter to rename.
4. Click Rename.
5. Enter a new name in **Rename Storm Tracking Filter**.
6. Click OK.

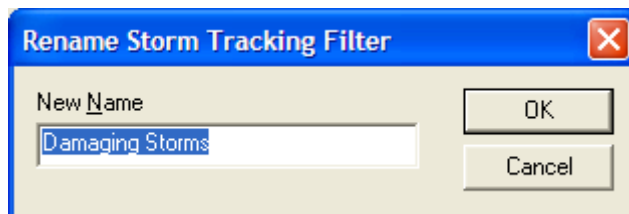


Figure 3-6: Rename Storm Tracking Filter

### Removing Storm Filters

Use the following steps to remove a storm filter.

**Note:** The default filter cannot be removed.

1. Click the Settings button.
2. Go to the **Storm Tracking** tab.
3. Select the filter to remove.
4. Click Remove.
5. A confirmation window will appear. Click Yes to remove the filter.



## Storm Filter Settings

Attribute	Description
Storm speed at least	Track storms with speeds of at least the designated rate in knots.
Maximum dBZ at least	Track storms with reflectivity of at least the designated level in dBZ.
Height of maximum dBZ at least	Track storms with maximum reflectivity at least a certain height in hundreds of feet.
Echo top of storm at least	Track storms with echo top of at least a certain height in hundreds of feet.
Probability of any size hail at least	Track storms with certain chance of any size hail in percentage.
Probability of severe hail at least	Track storms with certain chance of severe hail (at least 3/4-inch in diameter).
Maximum expected hail size at least	Track storms with hail at least a specified size in inches.
Vertically Integrated Liquid (VIL) at least	Track storms with a VIL of at least a certain value in kilograms per meter squared.
Tornadic Vortex Signature type at least	Track storms with either a TVS or Elevated TVS.
Mesocyclone type at least	Track storms with a mesocyclone, 2D, or 3D shear.

Storm Tracking Filter | City Database Directory and Corridor Setup

**Radar Site Selection**

☒ Display storms from all sites available

☐ Display storms only from single site Choose...

**Storm Filtering**

Display storms with all attributes specified

☒ Storm speed at least 40 kts

AND ☒ Maximum dBZ at least 60 dBZ

☐ Height of the maximum dBZ at least  ft x 100

☐ Echo top of storm at least  ft x 100

☐ Probability of any size hail at least  %

☐ Probability of severe hail at least  %

AND ☒ Maximum expected hail size at least 1.00 in

☐ Vertically Integrated Liquid at least  kg/m2

☐ Tornadic Vortex Signature type at least TVS

AND ☒ Mesocyclone type at least Mesocyclone

OK Cancel

Figure 3-7: Storm Tracking Filter

### Database and Corridor Setup

Under the **City Database and Corridor Set Up** tab you can designate what directory the city databases are located. You can also set up the storm corridor appearance. There are two sections: **Corridor Settings** and **City Database Directories**.

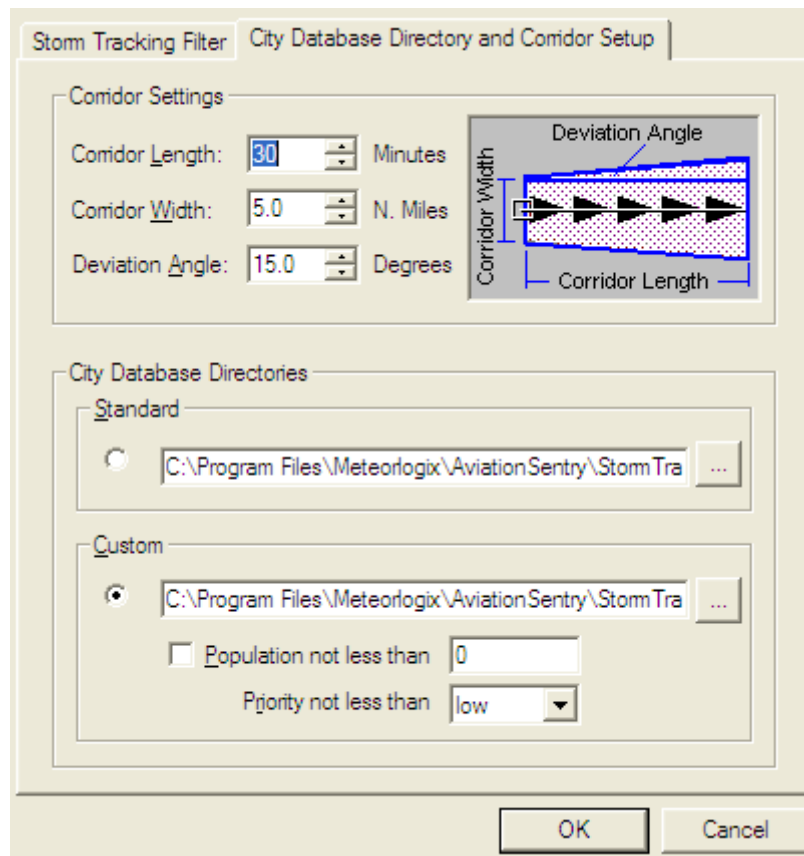


Figure 3-8: City Database Directory and Corridor Setup

### Corridor Settings

In this section you can setup the corridor that displays the speed and direction of storm movement. This corridor is used to determine the cities in the path of the storm and the arrival time of the storm.

- The length of the arrow that indicates the anticipated storm track is set in **Corridor Length**. This is set in minutes.
- The width of the area the corridor will cover is set in **Corridor Width**. This is set in miles.
- The **Deviation Angle** determines how the corridor deviates from a straight line at the end to path, in degrees. Zero represents a straight corridor.

### City Database Directories

In this section you can specify the directory the city databases are located.

- Select whether to use the **Standard** database that came with MxVision AviationSentry® or to use a **Custom** database you created.
- Enter the path to the database in the boxes. Click the button with three dots to search for the database.
- Under **Custom** database you can limit the cities display by allowing only those with a certain population to be displayed. Select **Population no less than** and enter the population on the box.

- If you select **Custom**, an Edit Custom Database button will appear under the **Storm Tracking** tab in **MxVision AviationSentry Settings**. This option will make the custom database available even on a locked-down system.
- You can also set the priority. Select the priority to be used from the **Priority not less than** drop down menu.

## Custom City Database

A custom city database can be set up in the **City Database Manager**. In this manager you can select cities from the master database and add locations that are not included in the master database. Click the Edit Custom Database from the **Storm Tracking** tab in **MxVision AviationSentry Settings** to edit the database.

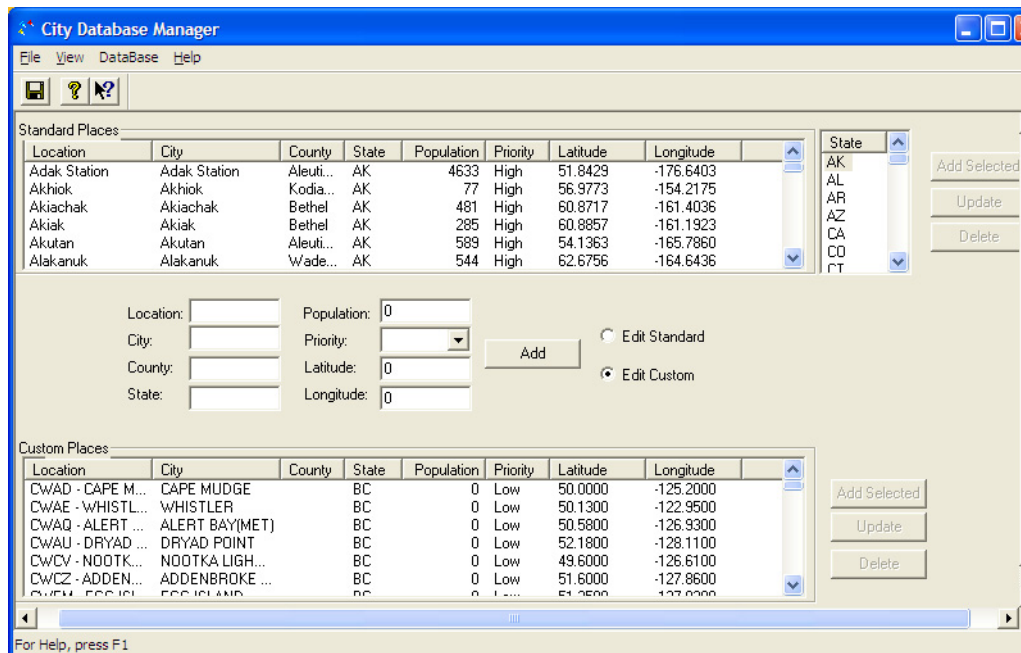


Figure 3-9: City Database Manager

The top portion of the manager lists locations in the standard database. The bottom portion lists the locations in the custom database.

Select a state from the right side of the **Standard Places** list to view a list of cities in the standard database.

New locations can be added to either database. Select Edit Standard or Edit Custom to add a location. Fill the boxes between the databases and click Add.

<b>Location</b>	Name given to the point. In most cases this will be a city.
<b>City</b>	Name of the city the point is located. If the location is not near a city this can be left blank.
<b>County</b>	Name of the county the point is located. No entry is required. Only one county can be entered.
<b>State</b>	State the point is located. No entry is required.
<b>Population</b>	Number of people at the location. No entry is required.

## Chapter 3: Tracking Hazardous Weather


<b>Priority</b>	Determines the order the location is considered when tracking storms. If the location has a low priority and the storm track has a minimum priority of medium, the location will not be displayed.
<b>Latitude</b>	Give the latitude of the location.
<b>Longitude</b>	Give the longitude of the location. Remember longitudes in the Western Hemisphere are negative. For example the longitude for Minneapolis is -93°.

Three buttons are available to the right of each database. These buttons are available when a location is highlighted in the opposite database. For example, if a city is highlighted in the standard database, the buttons to the right of the custom database become available.

Add Selected	Add the highlighted location to the opposite database.
Update	Edit or update the highlighted site in the opposite database.
Delete	Remove the highlighted location.

### Creating a Custom City Database

Use the following steps to create a custom city database:

1. Open the **City Database Manager** by clicking the Settings button, selecting the **Storm Tracking** tab and clicking Edit Custom Database. If the button does not appear, select a filter, click Edit, select the **Corridor and City Database Setup** tab, and select **Custom**. 
2. Select the state the sites are located in the window to the right of the master database window.
3. Move through the list to find the location to include.
4. Highlight the location.
5. Continue through the list. Each time you find a location, press the <Ctrl> key and highlight it. If you do not press the <Ctrl> key while highlighting, previously selected locations will be deselected. Select a block of cities by holding down the <Shift> key and highlighting the first and last location in the list.
6. Click Add Selected.
7. The locations appear in the lower window.

### Adding a Custom Location

Use the following steps to add a custom location:

1. Open the **City Database Manager**.
2. Enter the information about the location.
3. Enter the name of the location in **Location**.
4. Enter the city the location is located in **City**.
5. Enter the county the location is located in **County**.
6. Enter the state the location is located in **State**.
7. Enter the number of people located at the location in **Population**.
8. Select the priority level for the location from the **Priority** drop down menu.
9. Enter the latitude and longitude of the location in **Latitude** and **Longitude**.
10. Click Add.

An example:

<b>Location</b>	Meteorlogix
<b>City</b>	Minneapolis
<b>County</b>	Dakota
<b>State</b>	MN
<b>Population</b>	0
<b>Priority</b>	High
<b>Latitude</b>	44.7975
<b>Longitude</b>	-93.2563

## Displaying Alerts

A graphical representation or the actual text of active watches, warnings, and advisories can be displayed. Alerts can be displayed on any graphical product that supports the data (radar, satellite, etc.). Use the following steps to display alerts:

1. Click the **Active Alerts** icon on the toolbar.
2. Any active alerts are displayed with symbols on the map. A legend is available.
3. Zoom into the regional or single-site view.
4. The word `Text` appears next to the mouse pointer.
5. Click the county affected by the alert to read the text.
6. After reading the text, click the **Back** arrow below the product display to go back to the graphical product.



You can also view an alert by clicking the Watch and Warning selection button. A national map will appear with all the current alerts along with a legend. Click an area of the country to get more details about current alerts. The map will zoom into that area. The word `Text` will appear next to the mouse pointer. Click the county affected by the alert. The text will appear. If more than one alert is in effect for a county, a selection box will appear. Select the alert to view.

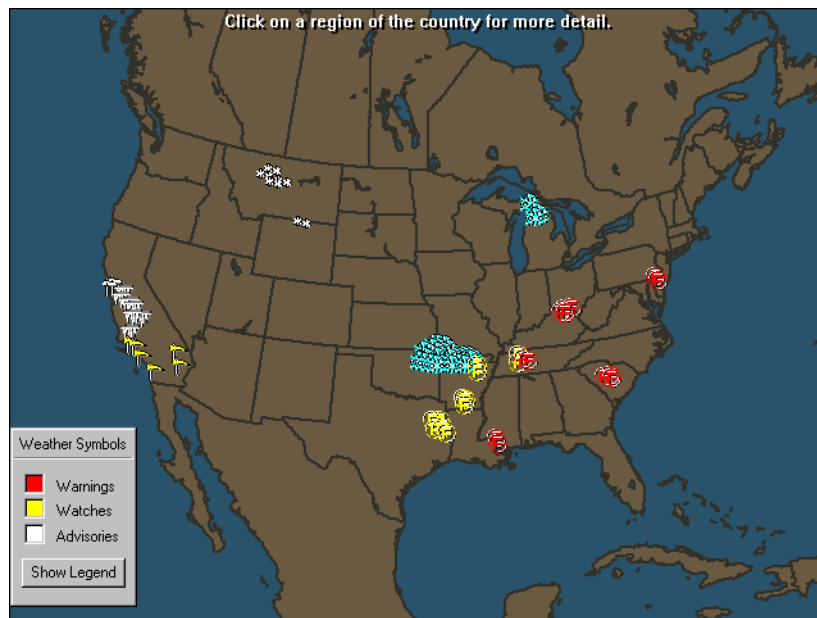


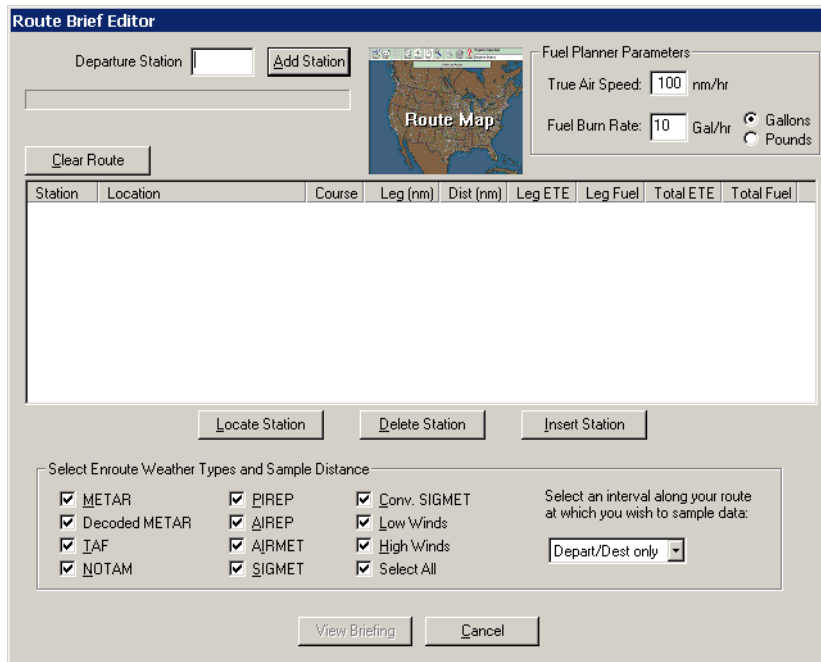
Figure 3-10: Warning Display

## Chapter 4: Aviation Features

Several aviation specific features are available in MxVision AviationSentry<sup>®</sup>. Route Brief<sup>™</sup> can be used to get weather information along a flight route. Briefings can also be created for specific airports or for an area surrounding an airport. In addition, aviation weather information can be accessed using the Internet and flight plans can be filed using DUATS.

### Route Brief<sup>™</sup>

A weather briefing along an aviation route can be created using Route Brief. This feature will provide a variety of aviation-related weather reports at points along the route. In addition, you can get an estimate of how long it will take to reach the destination and the amount of fuel needed. Two methods are available to create a route: use the **Route Brief Editor** or an interactive map.



The screenshot shows the 'Route Brief Editor' window. At the top left, there is a 'Departure Station' text box and an 'Add Station' button. Below this is a 'Clear Route' button. In the center, there is a 'Route Map' showing a map of the United States. To the right of the map, there are 'Fuel Planner Parameters' including 'True Air Speed' (100 nm/hr) and 'Fuel Burn Rate' (10 Gal/hr), with radio buttons for 'Gallons' and 'Pounds'. Below the map is a table with columns: Station, Location, Course, Leg (nm), Dist (nm), Leg ETE, Leg Fuel, Total ETE, and Total Fuel. The table is currently empty. Below the table are three buttons: 'Locate Station', 'Delete Station', and 'Insert Station'. At the bottom, there is a section titled 'Select Enroute Weather Types and Sample Distance' with a grid of checkboxes for METAR, Decoded METAR, IAF, NOTAM, PIREP, AIREP, AIRMET, SIGMET, Conv. SIGMET, Low Winds, High Winds, and Select All. To the right of this grid is a dropdown menu labeled 'Select an interval along your route at which you wish to sample data:' with 'Depart/Dest only' selected. At the very bottom are 'View Briefing' and 'Cancel' buttons.

Figure 4-1: Route Brief Editor

### Route Brief Editor

The **Route Brief Editor** can be used to set up a flight route. Layovers between departure and destination airports can also be included. A calculation of estimated time enroute (ETE) and the fuel required can be made. However, these estimates are only based on the Great Circle routes and does not take weather conditions into account.

- Enter the airport in the box in the upper left portion of the editor. The name of the box will vary depending on if you have added an airport. Then, click Add Station.
- Enter the information to determine ETE and fuel burn in **Fuel Planner Parameters**. The results will appear in the route table in the middle of the editor as you add airports.
  - Enter your air speed in **True Air Speed**.
  - Enter your expected fuel burn in **Fuel Burn Rate**. You can select from gallons or pounds.
- Click Clear Route to remove all airports and start over.
- Click the **Route Map** image to use a map to set up the route.
- The airports in the route along with information about the route and the calculations from **Fuel Planner Parameters** will appear in the middle of the editor in the route table.
- Three buttons are available below the route table:

Locate Station	Look up the identifier for an airport.
Delete Station	Remove the highlighted airport.
Insert Station	Add another waypoint above the highlighted airport.
- Choose the type of reports to include in the briefing under **Select Enroute Weather Types and Sample Distance**.
- Choose the sampling distance from the drop down menu to the right of the weather report types. Weather reports will be displayed at this interval along your route. For example, if you select 50 and your route is 200 miles long, you will get reports from airports at 50, 100, and 150 miles. If you select Depart/Dest only information only at the destination and departure airports will be included. If you select Include All, all data on the route will be included.
- Click View Briefing to view the weather reports.

### Setting Up a Route

Two methods are available to set up a route: using the **Route Brief Editor** and using the interactive map.

#### Using the Route Brief Editor

1. Click the Route Brief selection button.
2. Enter the airport identifier in the **Departure Station** box and click Add Station. The airport will appear in the table below. If you do not know the airport identifier, click Locate Station. Search for the airport, highlight it, and click OK. The **Departure Station** box will become **Next Station**.
3. Enter the expected air speed in **True Air Speed** and amount of fuel in **Fuel Burn Rate**.
4. Enter the next airport along the route in **Next Station** and click Add Station.
5. Continue to enter airports in **Next Station** to the end of the route.
6. If you need to add an airport between existing airports, highlight the airport the new airport should be inserted above and click Insert Station. The airports can be re-ordered by clicking the identifier and dragging the identifier to the new position in the route table.
7. Click Delete Station to remove the highlighted airport.
8. Select the weather reports to include in **Select Enroute Weather Types and Sample Distance**. Any report with a check mark will be included.
9. Select the interval to receive reports from the sample distance drop down menu.
10. Click View Briefing.



## Using the Interactive Map

1. Click the Route Brief selection button.
2. Click the **Route Map** image in the **Route Brief Editor**.

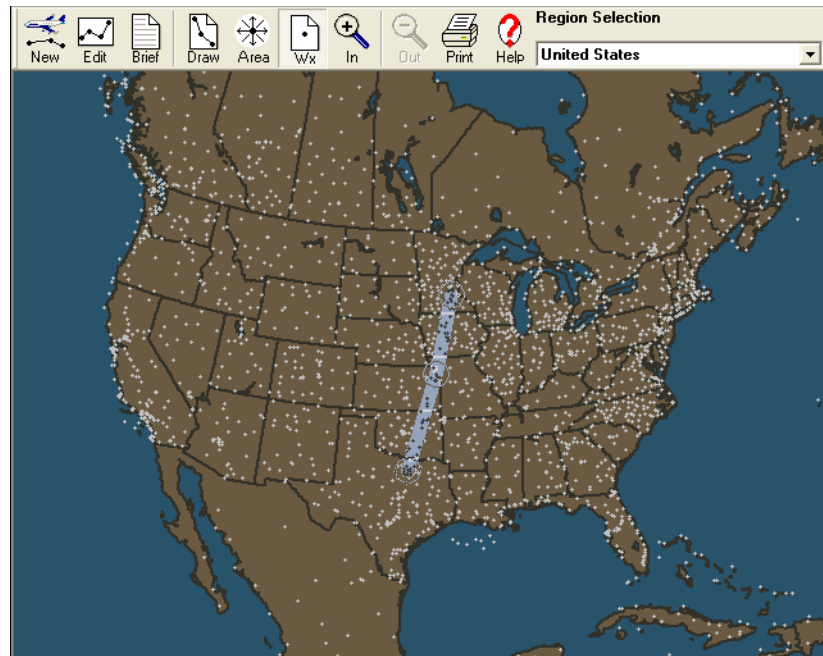


Figure 4-2: Route Brief Map

3. Click the **Draw** icon on the route brief toolbar.
4. Move the mouse to the departure airport.
5. Left-click the airport. If several airports are located in the same area, a selection box will appear. Select an airport from that box.
6. Drag to the next stop along the route.
7. Left-click the next point.
8. The **What do you want to do now?** window will appear. Select one of the options:
 

Choose Next Waypoint	Go back to the map and select the next point along the route.
Remove Last Waypoint	Remove the waypoint you just set.
Edit the Route	Open the <b>Route Brief Editor</b> to adjust the route.
Start a new Route	Clear the current route and begin a new route.
Get Weather Briefing	Display the weather data along the route.
Zoom In	Automatically zoom into the area around the last point you set.
Zoom Out	Zoom to the full extent of the map.
Stop	End the route and close this window.
9. You can return to the **Route Brief Editor** at any time by right-clicking and selecting Route Brief Editor from the menu.



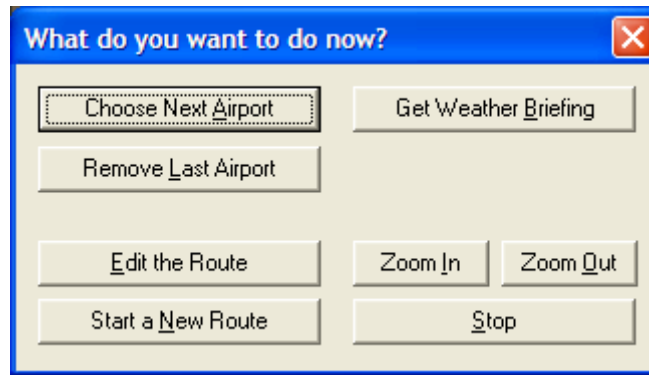


Figure 4-3: What do you want to do now?

## Display Weather Briefing

Four ways are available to display the weather briefing.

- Click View Briefing in **Route Brief Editor**.
- Click Get Weather Briefing in **What do you want to do now?**.
- Click **Brief** on the **Route Brief** map toolbar.
- Right-click any part of the corridor and select Weather Brief.

## Route Briefing

The route briefing contains three sections for each leg of the route. Each leg of the route is listed separately.

- Departure Weather
- Destination Weather
- En Route Weather

The included reports are selected in **Route Brief Editor**.

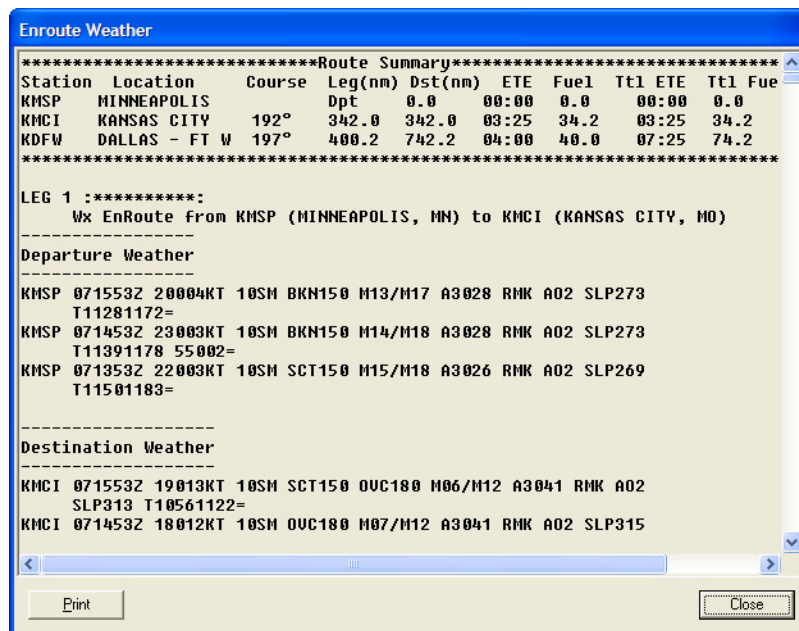


Figure 4-4: Example of Route Briefing

## Airport Brief™

Airport Brief provides a list of weather reports for a specific airport. These reports include observations, forecasts, and hazardous weather information. Two methods are available to access **Airport Brief**.

- Click the Airport Brief selection button.

Figure 4-5: Airport Brief

Use the following steps to view an airport briefing:

1. Use one of the above methods to access **Airport Brief**.
2. Enter the identifier for airport to include in the briefing. You can enter up to six airports. If you do not know the airport identifier, click Find. You can select the airport from **Select issue station** and click OK.
3. Select the reports to display in the briefing under **Reports**. Any report with a check mark will be included. More than one report type can be selected.
4. Choose the distance around the airport to include in the report from **Briefing area radius around airport(s)**. Any reports that are for areas within the radius will be included.
5. Click View Briefing to see the weather briefing.

The identifiers you enter will be saved even if you exit **Airport Brief**. You can type over the identifiers or click Clear Form to enter new identifiers.

## Internet

Additional aviation weather information is available from the Internet using the FAA NOTAMS selection button. If the button does not appear go to the **MxVision AviationSentry Settings** window, select the **Internet** tab, and make sure the Show Internet Button is enabled.

FAA NOTAMS

**Note:** You **must** have an **active** Internet connection to use this feature.

Click the selection button to access the Internet. The TFR and NOTAMS page from the FAA will appear in a browser-like window. You can view other sites by clicking the drop down menu. The Web sites that appear in the drop down menu are set under the **Internet** tab of the **MxVision AviationSentry Settings** window. You can add or remove sites from the **MxVision AviationSentry Settings** window. See Chapter 9. Four buttons are available that are similar to an Internet browser:

Back	Go back to the last page you viewed.
Forward	Go to the next page in the history list.
Refresh	Reload the page to get updated information.
Print	Print the page.

**Note:** The FAA NOTAMS selection button is only available if you have purchased this option.



Figure 4-6: Internet Display

## Aviation Links and DUATS

You can access additional aviation-related links and file a flight plan using MxVision AviationSentry and Direct User Access Terminal System (DUATS). Click the Av Links & DUATS selection button, choose either to view the links or select the DUATS provider. If you select a DUATS provider, the modem will begin dialing into DUATS. The modem will allow up to one minute to connect. Once connected you will be asked for a username and password.

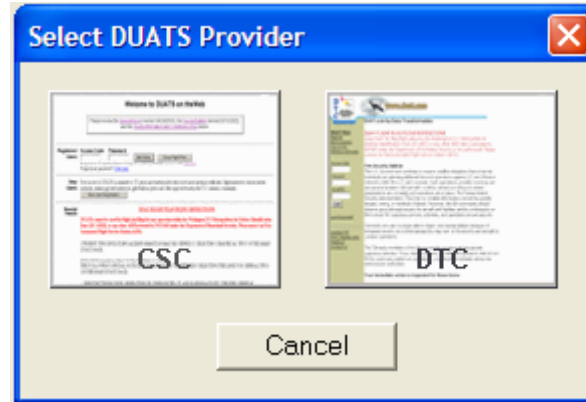



Figure 4-7: DUATS Provider Selection

The Aviation Links selection displays the Web browser within MxVision AviationSentry. The Web page displayed depends on the Web sites you selected under the **Internet** tab of **MxVision AviationSentry Settings**. The Web site at the top of the list under **Internet Resources**.

## Other Aviation Weather Information

Several other features are available for aviation interest, these include:

- Accessing aviation weather charts from Aviation Charts. A variety of weather charts specifically designed for aviation interests are available under this selection button.
- Accessing the AOPA directory. If the directory is loaded on your system an Auxiliary Button will appear. 
- RAMTAFs (MxTAFs) can be accessed under Text Weather selection button (available only for airports you are authorized, contact your sales representative for more information).

## Chapter 5: PrecipTimer™

The onset and ending times of precipitation can be computed and displayed in MxVision AviationSentry®. This chapter will describe how to set up and view the patent-pending precipitation timing feature.

### PrecipTimer™

The onset time, ending time, and rate of precipitation can be automatically determined and displayed for locations you create. See **Setting Locations** on page 5-2 for more details on setting a location. You can set up to six locations. The locations and the corridor used to calculate the precipitation timing will appear on the radar display as long as Show assets & precipitation corridor on map is enabled under the **Asset Location** tab of **MxVision AviationSentry Settings**. Click the **PrecipTimer** icon on the toolbar to turn on the precipitation timing.



The precipitation onset time, ending time, and maximum rate are calculated based on patent-pending algorithms developed by Meteorlogix®. The onset and ending times can be calculated up to three hours in advance. You can adjust the lead-time for precipitation onset under the **Precipitation Alarm** tab in **MxVision AviationSentry Settings**. You will not be alerted to precipitation until it is expected to start within the time you selected. An ending time will be calculated once precipitation has begun and is calculated up to three hours in length. If precipitation is expected to continue longer than three hours, “rain will last beyond (time)” will be displayed. All times are based on your system clock so make sure your system clock is accurate. The times are displayed as local time.

The maximum rate of precipitation is also calculated. A range will be provided and is based on the following table. The values are amounts expected in one hour.

Classification	Rain Rate	Snow Rate	Mix Rate	dBZ
Very Light	0.00-0.10"	Trace-0.50"	Trace-0.10"	0-20
Light	0.10-0.25"	0.50-1.00"	0.10-0.25"	21-30
Moderate	0.26-0.75"	1.00-1.50"	0.26-0.60"	31-45
Heavy	>0.75"	>1.50"	>0.60"	>45



Onset time, ending time, maximum rate, and precipitation type information are available in **Precipitation ETA**. Click the **PrecipTimer** icon to open this window. This window displays the following:

- Onset time, maximum rate, and type of approaching precipitation are calculated. If a mix of precipitation types is approaching, the type in the corridor closest to the location is what will be displayed. For example, if rain followed by snow is approaching, rain will be the type indicated.
- The ending time will be calculated and displayed below the onset time. If a mix is approaching or in progress, the type displayed will be the type at the back edge of the precipitation area. For example, if rain arrives first but changes to snow before ending, snow will be indicated with the ending time.
- The rate displayed is the maximum rate and the color will be based on the type associated with the maximum rate in the corridor. For example, if light rain is approaching followed by heavy snow a blue color will appear. This indicates the reflectivity level and that the heaviest precipitation will be snow.

See **Precipitation Alarm Settings** on page 5-4 to adjust the precipitation timing settings.

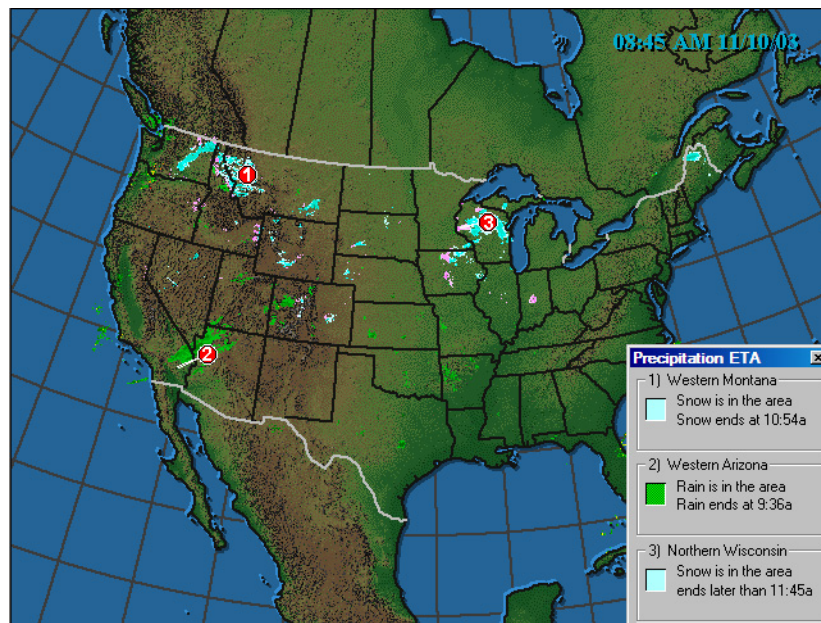


Figure 5-1: *PrecipTimer*

## Notification

PrecipTimer will notify you when precipitation is approaching a location. The **Precipitation ETA** window will open, the location that triggered the alert will flash for 15 seconds, and a sound will play if set under the **Precipitation Alarm** tab of **MxVision AviationSentry Settings**.

## Setting Asset Locations

You can identify up to six locations or assets to monitor the beginning and ending of precipitation. MxVision AviationSentry uses latitude and longitude to reference the location, however you do not need to know the latitude and longitude to set a location. Once a location is set, an icon will appear on all radar products identifying the location. The number on the icon corresponds to the location position in **Precipitation ETA**. The icons can be turned off by clicking the **PrecipTimer** icon or disabling Show assets & precipitation corridor on map under the **Asset Locations** tab. You can also display both the icon and the name of the location by clicking the **Location Set-up** icon.

Three methods are available to set a location. You do not need to know the latitude and longitude for two of the three methods. You can also edit or remove assets.

### Toolbar Icon Method

1. Open a radar or infrared satellite product associated with the location.
2. Click the **Location Set-up** icon.
3. Move the mouse cursor to the location of the asset and left-click. This will set the location.
4. Enter a name for the location and click Create.
5. A numerical icon and the name of the location will appear. The number corresponds to the number in **Precipitation ETA**.
6. A corridor with the distance and direction along with the **Precipitation ETA** window will appear after you click the **PrecipTimer** icon.



### Right-Click Method

1. Open a radar or infrared satellite product.
2. Move the head of the mouse cursor to the location.
3. Right-click at the location and select Set Asset Location Here.
4. The **Create Asset Location** window will appear.
5. Enter a name for the location and click Create.
6. A numerical icon and name of the location will appear. The number corresponds to the number in **Precipitation ETA**.
7. A corridor and the **Precipitation ETA** will appear after you click the **PrecipTimer** icon.



### Settings Window Method

**Note:** You must know the latitude and longitude of the location to use this method.

1. Click the Settings button.
2. Go to the **Asset Locations** tab.
3. Click New.
4. Replace **New X** (where X represents the icon number) with the name of the location.
5. Double-click under **Latitude** to set the latitude.
6. Double-click under **Longitude** to set the longitude.
7. Make sure Show assets & precipitation corridor on map is enabled for the corridor and icons to appear.
8. After loading a radar or infrared satellite, the icons will appear at the locations





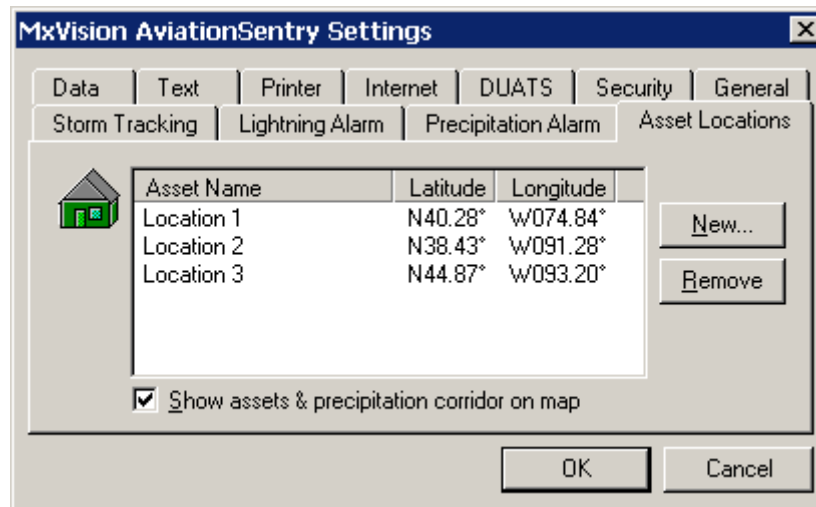



Figure 5-2: Adding an Asset in Settings


## Editing Assets

The location or name of the asset can be edited in **MxVision AviationSentry Settings**.

1. Click the Settings button.  Settings
2. Go to the **Asset Locations** tab.
3. Double-click the value to edit the **Latitude** or **Longitude**. For example, to change the latitude, double-click under **Latitude**. Click two separate times to edit the name under **Asset Name**.
4. Enter the new value.
5. Press <Enter> or left-click to set the value.


## Removing Assets

Locations can be deleted by right-clicking over the location in **Precipitation ETA** and selecting Delete It in **Modify Asset** or in **MxVision AviationSentry Settings** using the following steps:

1. Click the Settings button.  Settings
2. Go to the **Asset Locations** tab.
3. Highlight the location to remove.
4. Click Remove.
5. Click Yes to **Are you sure you want to remove (asset)?**

## Precipitation Alarm Settings

Several settings are available for the PrecipTimer feature. Use the following steps to access the settings:

1. Click the Settings button.  Settings
2. Go to the **Precipitation Alarm** tab.
3. Adjust the settings.
4. Click OK.

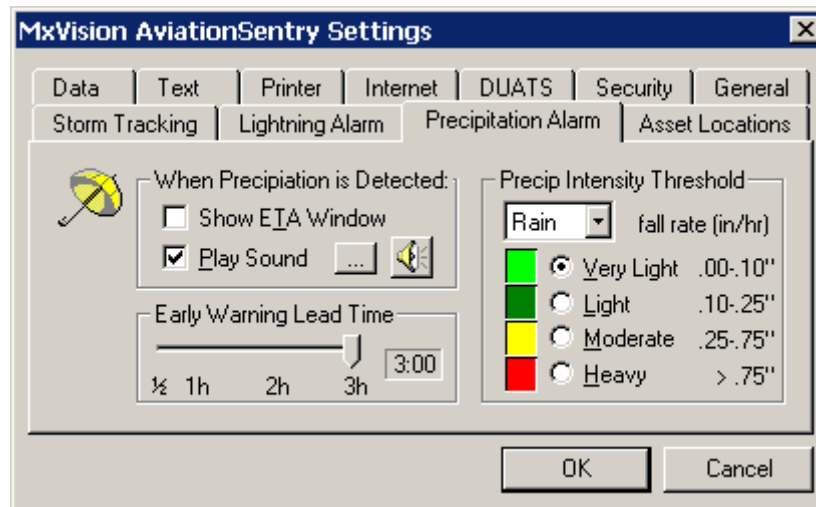


Figure 5-3: Precipitation Alarm Settings

Three sections are available: **When Precipitation is Detected**, **Early Warning Lead Time**, and **Precip Intensity Threshold**.

### When Precipitation is Detected

Two options are available to alert you when precipitation is detected within the lead-time for a location.

- Display ETA Window displays a window that indicates when precipitation will start, the intensity of the precipitation, and when the precipitation is expected to end.
- Play Sound will play a .wav file when precipitation is detected. Click the button with the three dots to search for a file. Click the speaker icon to preview the sound.

### Early Warning Lead Time

A slider bar is available to select how far in advance you will be alerted that precipitation is approaching. Slide the bar to the time anywhere between a half hour and three hours.

### Precip Intensity Threshold

Set the intensity of rainfall that needs to be detected before you are alerted. Four thresholds are available. You can select the threshold by precipitation type or specific reflectivity range (dBZ). Select the type from the drop down menu, then choose the threshold level. Select Very Light to be alerted that any precipitation is approaching. This option is the same for all assets.

## Chapter 6: Lightning Data

Lightning data can be displayed on radar for an area you are authorized to receive lightning data. Additional information about each stroke can also be displayed including age, polarity, and amplitude, however you must be authorized to view this data. Alerts can notify you of lightning activity within an area you specify.

### Displaying Lightning Data

Lightning data can be displayed on the last frame of any radar product. The data is only available within the authorized area. Click the **Lightning** icon to display the lightning data. The data will appear only on the last frame of the data animation. The lightning data will be color-coded based on age. A legend will appear in the lower corner describing the color codes. The oldest data is determined by the time span setting in **MxVision AviationSentry Settings**. Data can be displayed up to 60 minutes and is updated once per minute.

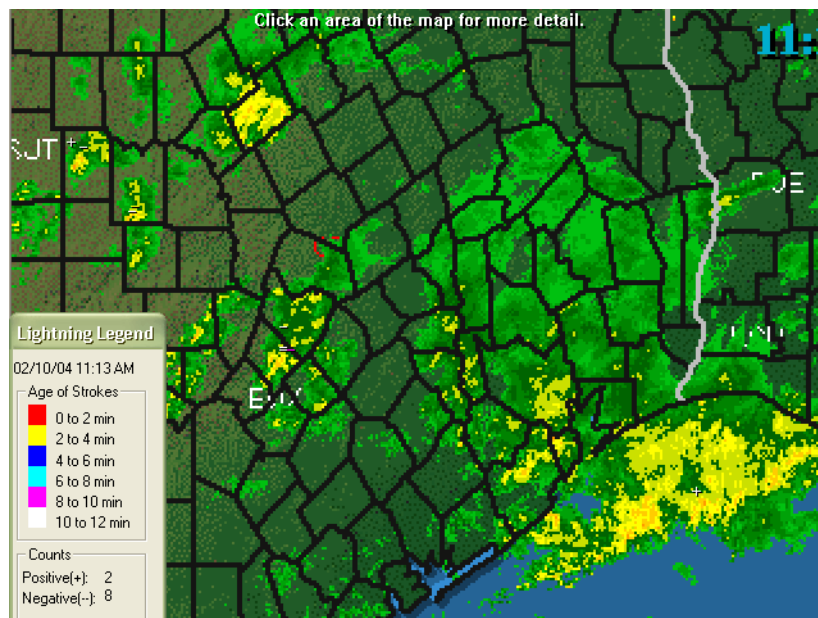
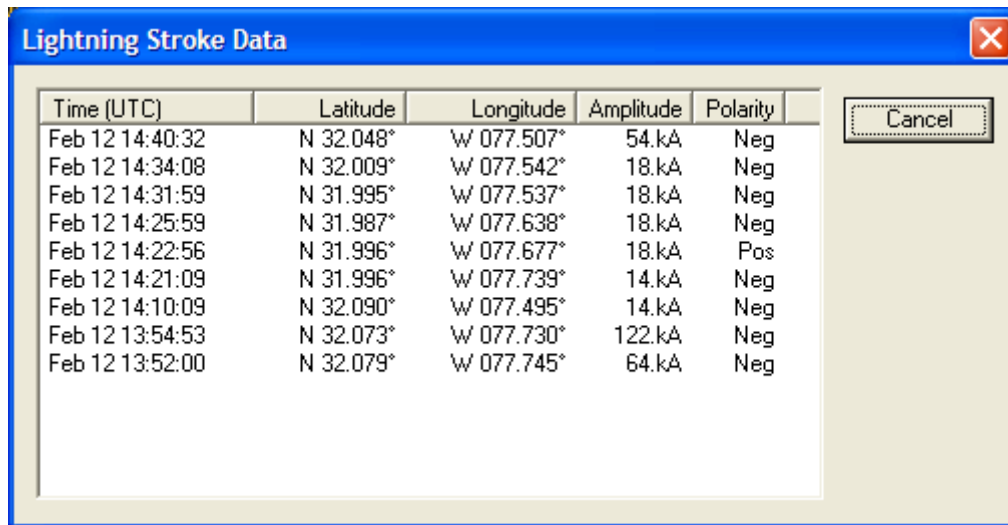


Figure 6-1: Lightning Plot

### Lightning Attributes

Additional information about the lightning strokes is available if you are authorized for the data. Any system that is authorized for lightning data in a radius of 60 miles or greater will have access to the additional lightning stroke information.

The additional information includes polarity and amplitude. For these systems a “+” or “-” symbol will indicate the stroke location and its polarity. On all other system lightning strokes will be indicated with a “X.” On systems authorized for the additional data you can click a stroke and a table displaying all data on the stroke will appear.



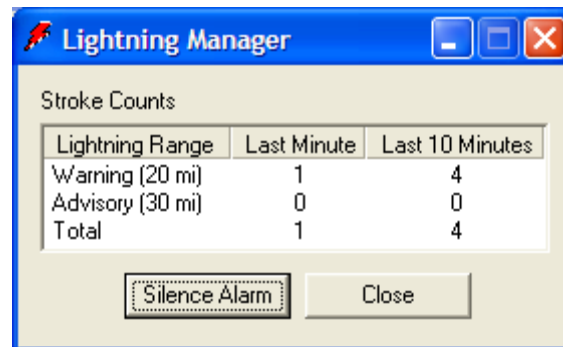
The image shows a dialog box titled "Lightning Stroke Data" with a table of lightning stroke information. The table has five columns: Time (UTC), Latitude, Longitude, Amplitude, and Polarity. There are eight rows of data. A "Cancel" button is located to the right of the table.

Time (UTC)	Latitude	Longitude	Amplitude	Polarity
Feb 12 14:40:32	N 32.048°	W 077.507°	54.kA	Neg
Feb 12 14:34:08	N 32.009°	W 077.542°	18.kA	Neg
Feb 12 14:31:59	N 31.995°	W 077.537°	18.kA	Neg
Feb 12 14:25:59	N 31.987°	W 077.638°	18.kA	Neg
Feb 12 14:22:56	N 31.996°	W 077.677°	18.kA	Pos
Feb 12 14:21:09	N 31.996°	W 077.739°	14.kA	Neg
Feb 12 14:10:09	N 32.090°	W 077.495°	14.kA	Neg
Feb 12 13:54:53	N 32.073°	W 077.730°	122.kA	Neg
Feb 12 13:52:00	N 32.079°	W 077.745°	64.kA	Neg

Figure 6-2: Lightning Stroke Data

## Lightning Manager®

**Lightning Manager** monitors lightning data to alert you to lightning strokes within ranges you specify. If lightning does occur within your ranges, **Lightning Manager** will alert you by popping up, flashing in the system tray, or playing a sound.



The image shows a dialog box titled "Lightning Manager" with a lightning bolt icon. It contains a table of stroke counts for different ranges and time periods. There are "Silence Alarm" and "Close" buttons at the bottom.

Stroke Counts		
Lightning Range	Last Minute	Last 10 Minutes
Warning (20 mi)	1	4
Advisory (30 mi)	0	0
Total	1	4

Figure 6-3: Lightning Manager

**Lightning Manager** contains data on the number of strokes that occurred in each of your ranges. The ranges and time period for the second column are set under the **Lightning Alarm** tab of **MxVision AviationSentry Settings**.

Three lightning stroke counts are displayed in **Lightning Manager**:

- Warning** The number of strokes that occurred in the warning area. The range is set in settings and is customizable.
- Advisory** The number of strokes that occurred in the advisory area. The range is set in settings and is customizable.
- Total** Displays the total strokes occurring in both ranges.

Two buttons are located at the bottom of the window:

Silence Alarm	Stop the current alarm. It will start again when a new lightning stroke occurs in the range.
Close	Closes the <b>Lightning Manager</b> window but will not stop the application. <b>Lightning Manager</b> will be located in the system tray and will continue to monitor for new lightning data. Close also stops the alarm.

## Lightning Alarm Settings

**Lightning Manager** settings are adjusted under the **Lightning Alarm** tab in **MxVision AviationSentry Settings**. Access the window by clicking the Settings button. Four sections are available under the **Lightning Alarm** tab: **Center Point**, **Warning Area** and **Advisory Area Radius**, **Time Span**, and **Lightning Manager** access.

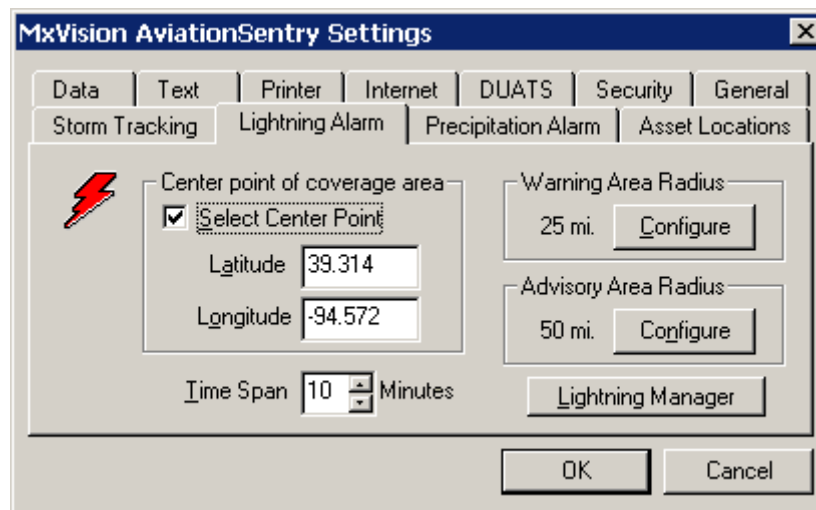


Figure 6-4: Lightning Alarm Settings

### Center Point

The center point of the ranges is set under **Center point of coverage area**. Set the center point to receive alerts and view the range rings. Enable **Select Center Point** and enter the latitude and longitude to set your own center point. The latitude and longitude must be entered as decimal degrees. If you set your center point too close to an edge of your authorized area it may limit the amount of data you receive. You will not be alerted to strokes outside your authorized area.

**Note:** Longitudes in the Western Hemisphere are negative. For example, the longitude for Minneapolis is -93°.

### Warning Area and Advisory Area Radius

The radius for the warning and advisory areas can be set under **Warning Area Radius** and **Advisory Area Radius**. Click Config to adjust the settings for the respective area.

### Alarm Configuration

Adjust the alarm settings and radius for advisory and warning alarms using the respective **Alarm Configuration** window. Click Configure under **Lightning Alarm** tab of **MxVision AviationSentry Settings** to access the configuration windows.

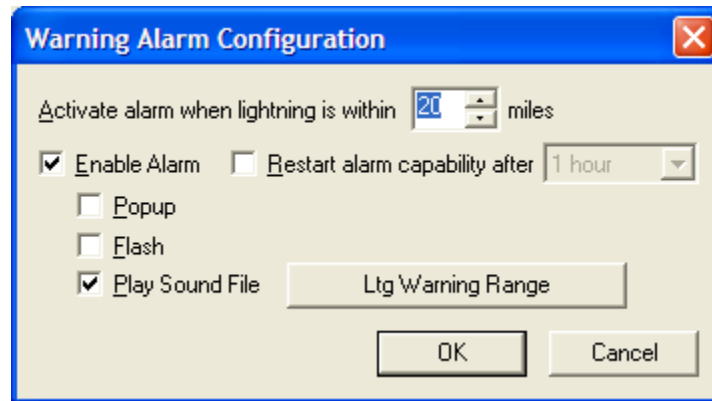


Figure 6-5: Warning Alarm Configuration

- Set the radius of the alarm area in **Activate alarm when lightning is within**.
- Make sure a check mark appears in **Enable Alarm** to be notified when lightning is detected in the radius you entered. Three notification options are available:
 

Popup	<b>Lightning Manager</b> will pop up in front of all windows.
Flash	Red lightning bolt icon on system tray will blink.
Play Sound File	An audio file will play when lightning is detected. Click the button to the right of Play Sound File to choose an audio file.
- Enable **Restart alarm capability after** to determine when to reset the lightning alarm after you receive an alarm. This feature is useful after the thunderstorm arrives so you do not get alarms every minute during a thunderstorm.

### Time Span

The time period for the lightning data displayed over radar data and the second column in **Lightning Manager** is set in **Time Span**. The value can be up to 60 minutes.

### Lightning Manager Access

You can view **Lightning Manager** window by clicking the Lightning Manager button.

### Lightning Manager Range Rings

The ranges you set for the warning and advisory area will be displayed as range rings after the **Lightning** icon is clicked. This will provide a visual way to see where the strokes you were alerted to actually occurred. You can then make better business decisions based on the data.



A center point must be set under the **Lightning Alarm** tab of **MxVision AviationSentry Settings** and the alarms must be enabled to view the range rings. The range rings and lightning data will always be plotted together. You cannot plot only rings or only data.

The range rings are color-coded by area:

Yellow Ring	Advisory Area
Red Ring	Warning Area

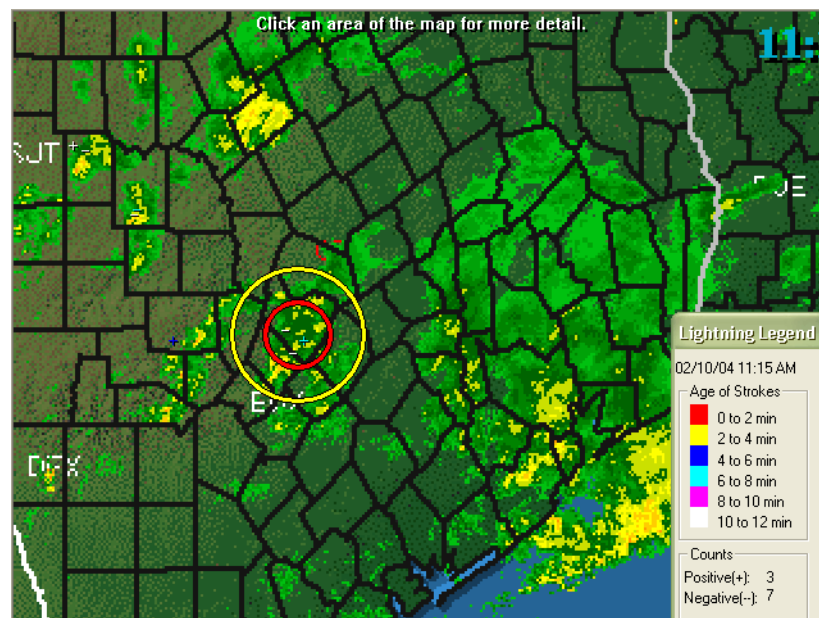


Figure 6-6: Lightning Data with Range Rings

## Lightning Legend

Anytime the lightning data is displayed a legend will appear in the lower right corner of the product display. This legend will display the color code used for the strokes and the stroke count included in the product display.

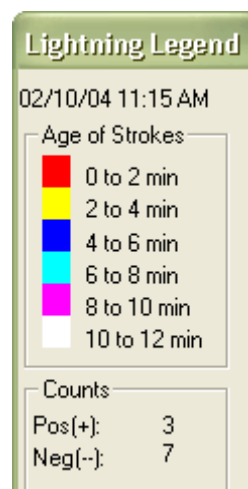


Figure 6-7: Lightning Legend

Each lightning stroke is coded by the time the stroke occurred. The color will continuously update as the stroke ages. The length of time the stroke stays on the display is set using the **Time Span** option under the **Lightning Alarm** tab of **MxVision AviationSentry Settings**. Once the time span is set (up to 60 minutes), the legend will adjust the color codes to evenly distribute the colors over the time span. Any strokes older than the set time span will not be displayed.

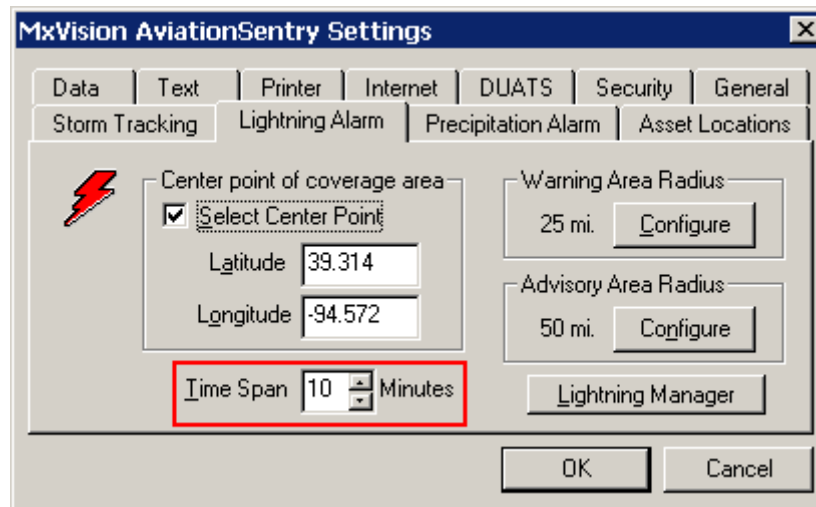


Figure 6-8: Time Span Option under Lightning Alarm

A count of the number of strokes within the product display are listed below the color codes in **Lightning Legend**. These strokes are not the totals from within the lightning rings or your whole authorized area, but the count from within the area currently viewed in the product display. If you are authorized for an area 60 miles or greater the count will be separated by positive and negative strokes. Otherwise, a single count will be displayed.

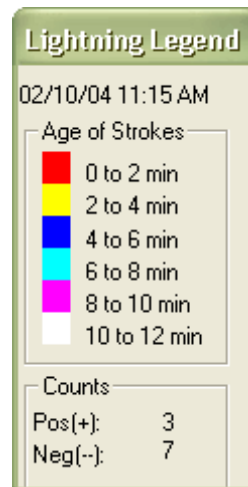


Figure 6-9: Counts Portion of Lightning Legend



## Chapter 7: Alert Manager<sup>TM</sup>

**Alert Manager** monitors watches, warnings, and advisories issued by the National Weather Service (NWS). Decoded surface observation files and weather watches can also be monitored by **Alert Manager**. In addition, computers with multimedia capabilities (sound card and speakers) can be configured to issue audible alarms when associated watches, warnings, and advisories are issued.

A tutorial demonstrating the set up and use of **Alert Manager** is available in the Help files included with the software. Click the Help icon to access the Help file. The tutorial is available under **Show Me How**.



### Start Up

The MxVision® **Initializer** runs when Windows® is started so that **Alert Manager** starts automatically when your computer is started. Click the **Alert Manager** icon on the toolbar to access **Alert Manager**.



### Alert Manager Layout

The **Alert Manager** window consists of a menu bar, NWS Alert Message Summary, and an alert display.

<b>Menu Bar</b>	Access additional features of <b>Alert Manager</b> .
<b>NWS Alert Message Summary</b>	List the current watches, warnings, and advisories from the NWS.
<b>Alert display</b>	Display the text of the highlighted alert.

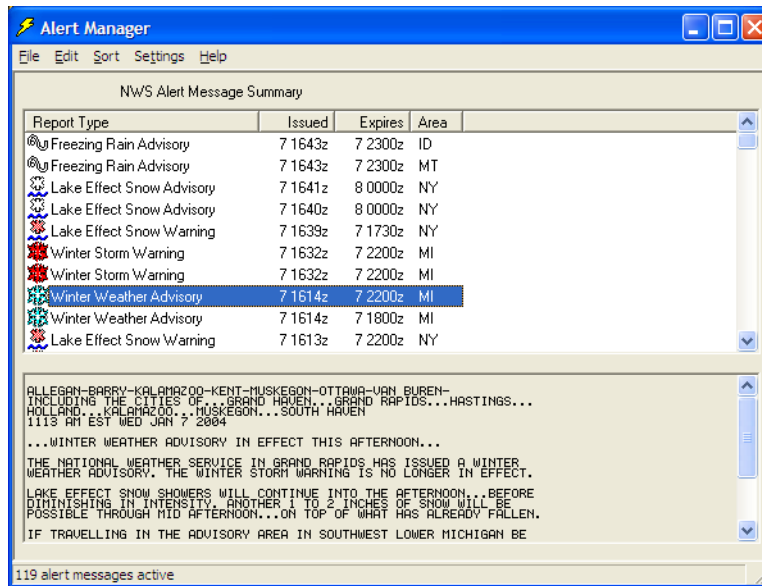


Figure 7-1: Alert Manager

## Menu Bar

Several features of **Alert Manager** can be accessed from the menu bar. Five menu options are available: **File**, **Edit**, **Sort**, **Settings**, and **Help**. Each of the menu options are described below:

Menu Option	ShortCut	Description
<b>File &gt; Save as Text</b>	Alt, F, S	Save the text of the alert to a location you specify.
<b>File &gt; Observed Data</b>	Alt, F, D Ctrl+D	Display surface observations for locations you specify.
<b>File &gt; Print</b>	Alt, F, P Ctrl+P	Print the text.
<b>File &gt; Print Setup</b>	Alt, F, R	Set the printer and printer configurations.
<b>File &gt; Close</b>	Alt, F, C	Close <b>Alert Manager</b> .
<b>Edit &gt; Copy Text</b>	Alt, E, C Ctrl+C	Copy highlighted text to the clipboard.
<b>Edit &gt; Remove Item</b>	Alt, E, R	Remove the highlighted alert.
<b>Sort &gt; Report Type</b>	Alt, S, R	Sort all the alerts by type of alert.
<b>Sort &gt; Priority</b>	Alt, S, P	Sort all the alerts by alert priority.
<b>Sort &gt; Issue Time</b>	Alt, S, I	Sort all the alerts by when they were issued.
<b>Sort &gt; Expiration Time</b>	Alt, S, E	Sort all the alerts by when they expire.
<b>Sort &gt; Area</b>	Alt, S, A	Sort all the alerts by the state they affect.
<b>Settings &gt; Area Filter</b>	Alt, T, F	Filter the area that you receive alerts.
<b>Settings &gt; Alarms</b>	Alt, T, A	Set up the type of alarms to notify you when an alert is received.
<b>Settings &gt; Weather Watch</b>	Alt, T, W	Set up alerts for specific types of weather conditions.

Menu Option	ShortCut	Description
<b>Settings &gt; General</b>	Alt, T, G	General preferences for <b>Alert Manager</b> .
<b>Settings &gt; Set Font</b>	Alt, T, F	Set the font to use in the text of the alerts.
<b>Settings &gt; Use As Printer Font</b>	Alt, T, U	Select the font to use to print the alerts.
<b>Help &gt; Contents</b>	Alt, H, C <F1>	Display the help contents file.
<b>Help &gt; Search</b>	Alt, H, S	Search the keywords in the help file.
<b>Help &gt; About Alert Manager</b>	Alt, H, A	Display the version number and copyright information for <b>Alert Manager</b> .

## Alert Display

The text of an alert can be viewed in the bottom half of the **Alert Manager** window. The text can be viewed by highlighting the alert. The alert text will appear in the bottom half of the window.

## Alert Manager Settings

Alerts can be filtered and alarms for both alerts and certain weather conditions can be set up using the options from the **Alert Manager Settings** window. Once the **Alert Manager Settings** window is open, you can move through the different options by clicking the tabs at the top of the window. There are four options from the **Settings** menu: **Area Filter**, **Alarms**, **Weather Watch**, and **General**.

### Area Filter

Under this tab you can select the areas to receive alerts. Two sections are available: **Alert Message Display** and **Alert Message Area**.

#### Alert Message Display

Choose the types and significance levels of alerts to display. These are general categories to display. Any category with a check mark will be available. These are not the alerts that will be popped up or play a sound. These are the alerts that will appear in the **Alert Manager** window. The alarms are set up under the **Alarms** tab.

#### Alert Message Area

Use this section to refine the areas to receive alerts. In the top half, select whether to receive alerts for the whole country or for specific areas. Select National to see alerts for the whole country, otherwise select State & County Filter. Use the following steps to filter specific counties:

1. Make sure to select State & County Filter.
2. Click Add Area to add an area (done by state).
3. Select the state and click Add.
4. Highlight a state and click Pick Counties.
5. Deselect counties by clicking the check box once to remove the check mark. Only counties with a check mark will be alerted on your system.

Additional location refinement can be done with **Secondary Location Filters**. You can enter the latitude and longitude of a location and if the alert file contains additional latitude and longitude information, it will determine if the location is included in the alert. If the latitude and longitude are not included in the alert file this information will be ignored.

The locations set here are separate from your PrecipTimer™ assets. You will need to set these locations separately. Use the following steps to set a location:

1. Click New Location.
2. Enter the location name.
3. Double-click under **Latitude** and enter the value.
4. Double-click under **Longitude** and enter the value.

Highlight the location and click Remove to delete a location.

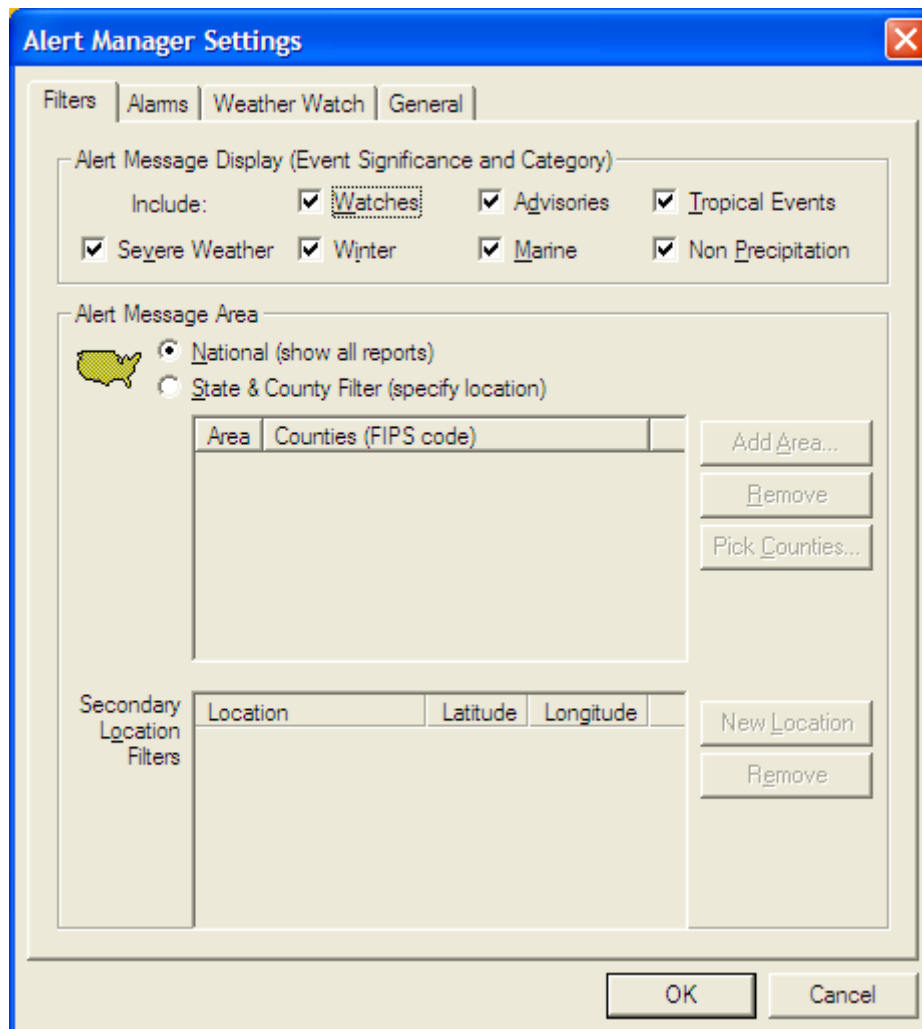


Figure 7-2: Filters Tab of Alert Manager Settings

## Alarms

Select **Settings > Alarms** from the menu bar to set up alarms. The alarms will notify you when alerts are issued for the areas you selected under **Filters**.

Alarms can be set up under five tabs:

<b>Severe Weather</b>	Alarms related to thunderstorms.
<b>Winter</b>	Alarms related to hazardous winter weather.
<b>Non Precipitation</b>	Alarms related to hazardous weather not caused by precipitation (high wind, dust, fog, etc.).
<b>Marine</b>	Alarms related to hazardous weather on the oceans and the Great Lakes.
<b>Programs</b>	Set a program to run when selected alerts are issued.

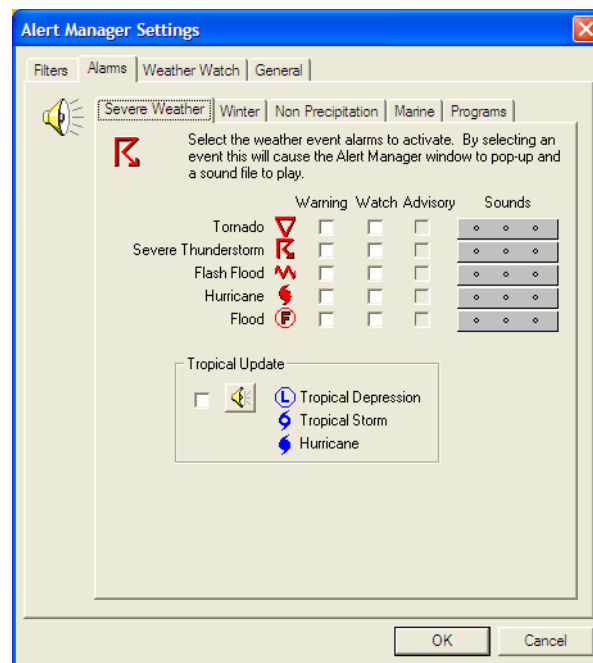


Figure 7-3: Alarms Tab of Alert Manager Settings

Under each tab (except **Programs**) you can select the alert and significance level (watch, warning, advisory). Any alert with a check mark will result in **Alert Manager** popping up when that alert is issued.

A sound can be played when an alert is received. Use the following steps to set a sound:

1. Click the button under **Sounds** in the row associated with the alert type.
2. In **Select (alert type) Sounds** enter the .wav file in **Warning**, **Watch**, or **Advisory**. You can search for the file by clicking the button with three dots. You can hear a sample of the file by clicking the speaker icon. Sounds can be set for any or all available significance levels (not all significance levels are available for all alert types).
3. Enable Continuous to have the sound play until the alarm is acknowledged.
4. After setting the sound, speaker icons will appear on the button under **Sounds**. The icons will appear in the position corresponding to the significance level. The warning icon will appear to

the left, the watch icon in the center, and the advisory icon to the right. If no sound file is set for the significance level, a circle (o) will appear.

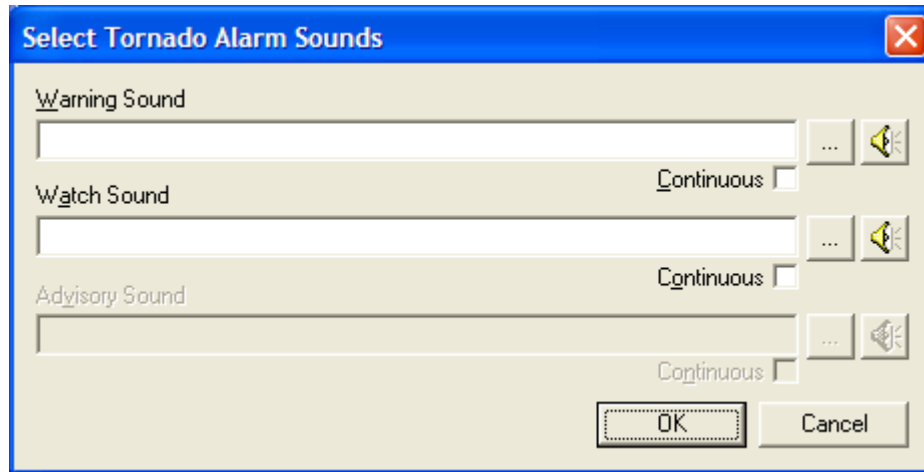


Figure 7-4: Select Sounds Window

### Setting Up a Program

Use the following steps to have a program run when an alert is issued.

1. Open the **Alert Manager Settings** window.
2. Go to the **Alarms** tab.
3. Select the **Programs** tab under the **Alarms** tab.
4. Click Add.
5. Enter a description.
6. Click the Browse button.
7. Select the program.
8. Select Report Name under **Command Line Options**.
9. Choose the **Report Type**.

### Auto Printing Alerts

A print program is available called PrintAlert.exe to print alerts to the default printer as they are received. Use the following steps to set up this program:

1. Go to the **Alarms** tab.
2. Select the **Programs** tab under the **Alarms** tab.
3. Click Add.
4. Enter a description.
5. Click the Browse button.
6. Find PrintAlert.exe. This file can be found in the MxVision AviationSentry program folder or the Server folder.
7. Select Report Name under **Command Line Options**.
8. Select the alerts to automatically print under **Report Type**.
9. Click OK.

### Weather Watch

**Alert Manager** can monitor weather conditions at surface observing sites and pop up a window when a specific condition has occurred. Select **Settings > Weather Watch** from the menu bar to access **Weather Watch**.

The window displays the list of observation sites that have been set up and includes the station, parameter, and threshold. Use the following steps to add a station:

1. Click Add from the right side of the window.
2. Type the station identifier in **Station** or click Locate. If you click Locate, select the state or area and click OK, then select the observation site from the list of all the observation sites in that area. Click OK.
3. Choose the **Weather Parameter**.
4. Select how to compare the weather parameter to the current conditions from **Comparison**. Options are: Greater Than, Less Than, or Equal To.
5. Select the **Threshold**. This is the value that will cause an alarm. For example, to know when the temperature reaches 100 degrees, select greater than from **Comparison** and type 99 in **Threshold**.
6. Determine whether to use English or metric units.

Stations can be added, edited, enabled, and removed by using the buttons along the right side of the window.

Add	Add a station and parameter.
Edit	Change a station.
Remove	Delete a station.
Sound	Add a sound to the pop up when a parameter has been met.
Enable All	Enable all the parameters.
Disable All	Disable all the parameters.

Any parameter that has a check mark next to it will be monitored. Make sure the check mark is removed to stop monitoring a parameter. This allows you to set up parameters on a seasonal basis. For example, you may want to monitor for temperatures below 32 degrees Fahrenheit in October, but not in December.

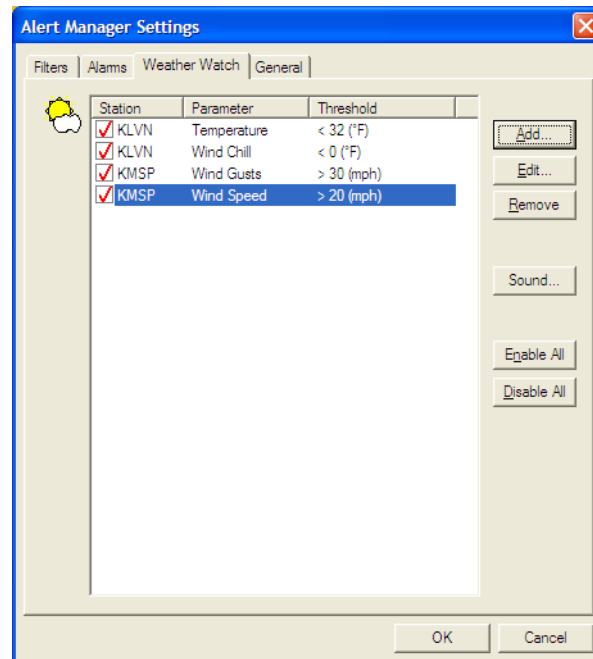


Figure 7-5: Weather Watch Tab of Alert Manager Settings

## General Tab

General options which apply to the entire **Alert Manager** application can be set up under this tab. Select **Settings > General** from the menu bar to open this tab.

- Choose the units of measurement for the observed surface data from **Display Units**.
- Enable or disable the receipt of watches, advisories, or tropical advisories under **Alert Message Display**.
- For surface data, select whether to keep the Current hour only or Retain 24 hours worth of data under **Surface Data History**.
- Select the format for the time under **Time Display**.
- Select whether to display an icon in the system tray and whether the system should confirm your exit from **Alert Manager** under **Alert Manager Options**.
- Select whether the current system is a server/stand alone or a client under **Data Management**. If client is selected, set the path to the data.



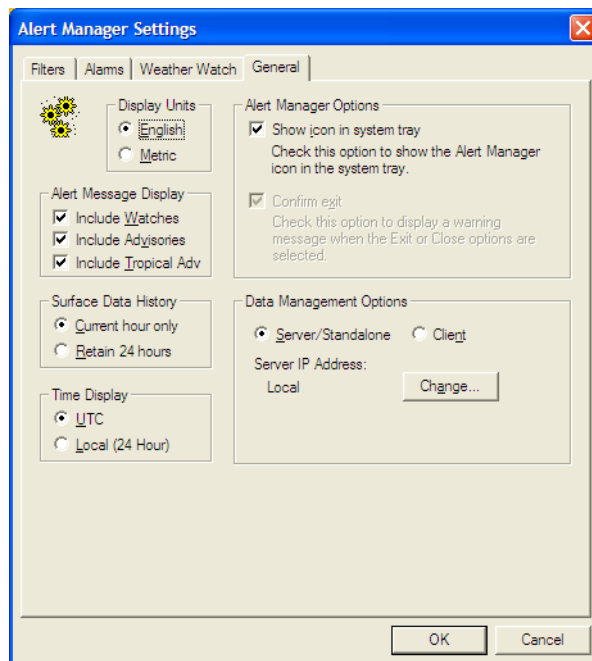



Figure 7-6: General Tab of Alert Manager Settings

## Chapter 8: Local Forecasts

You can view short-term and long-term forecasts for many cities in MxVision AviationSentry®. The forecasts can be presented in either tabular or graphical formats. In addition, you can set thresholds for many of the parameters and when the parameter exceeds the threshold it can be graphically depicted.

A tutorial demonstrating the customization of the Local Forecasts is available in the Help files included with the software. Click the **Help** icon to access the Help file. The tutorial is available under **Show Me How**.  **Help**

### Local Forecasts

Two forecasts are available: short-term with hourly forecasts for up to 72 hours and long-term with forecasts out to 10 days. The hourly forecasts displays data by the hour with observed data up to the current hour and forecast data for future time periods. The observed data will be color-coded in gray. The 10-day forecast displays the daily data (maximum and minimum temperatures, average wind speed, probability of precipitation, etc.). A daily observation file will update periodically and the data based on that file will be color-coded in gray. All other data is forecast data.

The data displayed and the thresholds are completely customizable. Using the **Settings** tab, you can select the parameters that appear and the thresholds for the data. The **Settings** can be adjusted at anytime to account for changes in seasons or business needs.

### Accessing Local Forecasts

Local forecasts are accessed from a thumbnail under the Text Weather selection button. Once you select a forecast, other options will be available under four tabs: **Tabular**, **Graphs**, **Settings**, and **Historical**.

### Selecting Forecast Site

Select the city to display from the map. This is done in a similar fashion to selecting other text products.

1. Click Text Weather selection button.
2. Click the Local Forecast thumbnail.
3. A map will appear.
4. Move the mouse until the state of interest is highlighted in yellow.
5. Click the state.
6. The list of available cities will appear in a new window.

7. Click the city of interest. You can only select one city at a time.
8. The 10-day forecast will appear. Click **Hourly** to switch to the short-range forecast. Click **Graph** to see a graphical representation. Go to the **Settings** tab to adjust the parameters and thresholds.
9. Click the Map button to select another city.

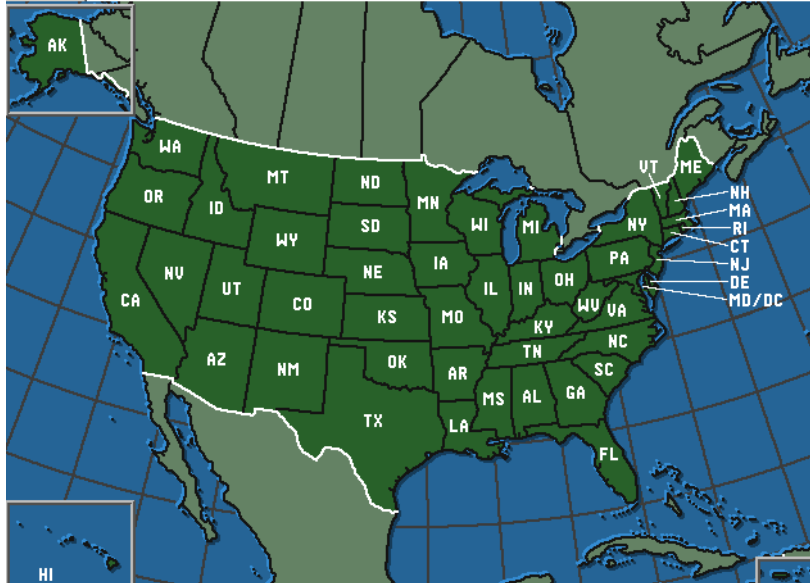


Figure 8-1: Local Forecast Location Selection

## Tabular Representations

The tabular representations display the observed and forecast data in a table format. Two tables are available: **Hourly** and **10-Day**. Click the appropriate tab to view the forecast.

The hourly forecast displays the conditions or expected conditions at the location for every hour. Observed conditions are displayed for time periods up to the current hour and are color-coded in gray. Forecast conditions are displayed for time periods after the current hour.

The 10-day forecast displays data based on the day and not the hour. Observed conditions will be updated each time a daily observation file is received. Forecast conditions will be displayed for days one through ten. Observed data will be color-coded in gray.














Tabular	Graph	Historical	Settings	Map										
Hourly	10 Day	Hourly Forecast Wed 5/19												
LAKEVILLE [KLVN], MN														
Hour	Wed 12pm	1	2	3	4	5	6	7	8	9	10	11	Thu 12am	
Weather Condition														
Temperature °F	65	67	68	69	70	70	70	70	68	67	65	64	64	
Wind Direction	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	S	S	SSW	SW	
Wind Speed MPH	13	14	14	13	13	12	10	9	8	8	7	7	6	
Dew Point °F	50	51	51	52	52	52	53	53	54	54	55	55	55	
Relative Humidity (%)	47	47	46	44	43	44	44	45	51	56	62	64	66	
Heat Index °F	65	67	70	72	75	75	75	75	72	68	65	64	64	
WindChill °F	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sky Cover	CL	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	
Probability of Precipitation (%)	-	-	-	-	-	20	40	60	40	20	-	-	21	
Precipitation Type	-	-	-	-	-	R	R	R	R	R	-	-	R	
6hr Prec. Total (in)		None						Rain 0.06						

Figure 8-2: Hourly Tabular Forecast

Tabular	Graph	Historical	Settings	Map								
Hourly	10 Day											
10-Day Forecast Wed 5/19												
LAKEVILLE [KLVN], MN												
Date	Tue 5/18	Wed 5/19	Thu 5/20	Fri 5/21	Sat 5/22	Sun 5/23	Mon 5/24	Tue 5/25	Wed 5/26	Thu 5/27	Fri 5/28	
Weather Condition												
Max Temperature °F	70	70	70	61	72	72	71	71	72	77	73	
Min Temperature °F	43	48	60	56	52	49	45	50	46	51	49	
Heat Index °F	70	76	75	61	76	76	76	76	76	79	76	
Wind Chill °F	-	-	-	-	-	46	41	47	43	-	45	
Average Dew Point °F	-	50	51	48	52	44	43	44	42	48	46	
Average Relative Humidity (%)	66	47	46	61	58	48	45	49	44	50	52	
Average Wind Speed MPH	LV	10	8	9	7	6	7	7	6	6	7	
Sun (%)	-	69	73	46	58	67	76	74	74	72	59	
Probability of Precipitation (%)	-	60	-	80	67	57	49	58	36	51	48	
Amount of Precipitation (in)	None	Rain 0.2	None	Rain 1.6	Rain 0.8	Rain 0.2	Rain 1.6	Rain 0.2	Rain 0.1	Rain 0.8	Rain 0.2	
Deg Day CH	0/9	0/6	0/0	0/7	0/3	0/5	0/7	0/5	0/6	0/1	0/4	
Cooling Degree												

Figure 8-3: 10-Day Tabular Forecast

## Graphical Representations

You can create two graphs based on the current and forecast data displayed in the hourly and 10-day forecast tables. These graphs are completely customizable. You can select which parameters to display and the thresholds that can alert you to weather conditions that could be a hazard to you or your business. Go to the **Settings** tab to customize your graph.

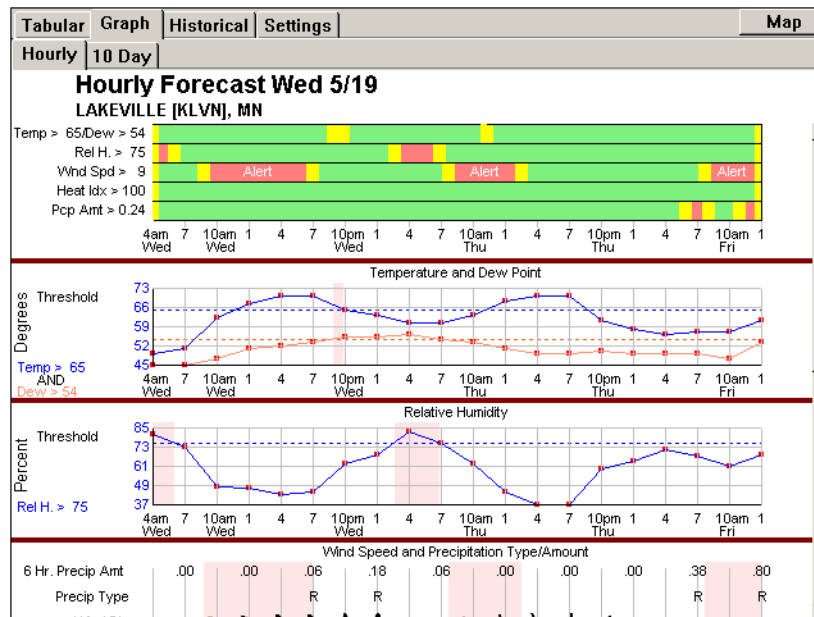


Figure 8-4: Hourly Graphical Forecast

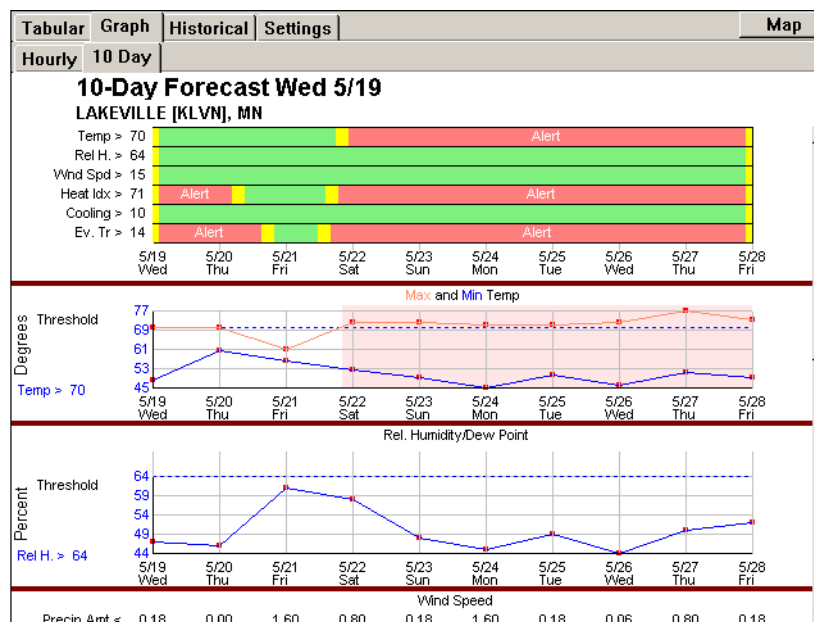


Figure 8-5: 10-Day Graphical Forecast

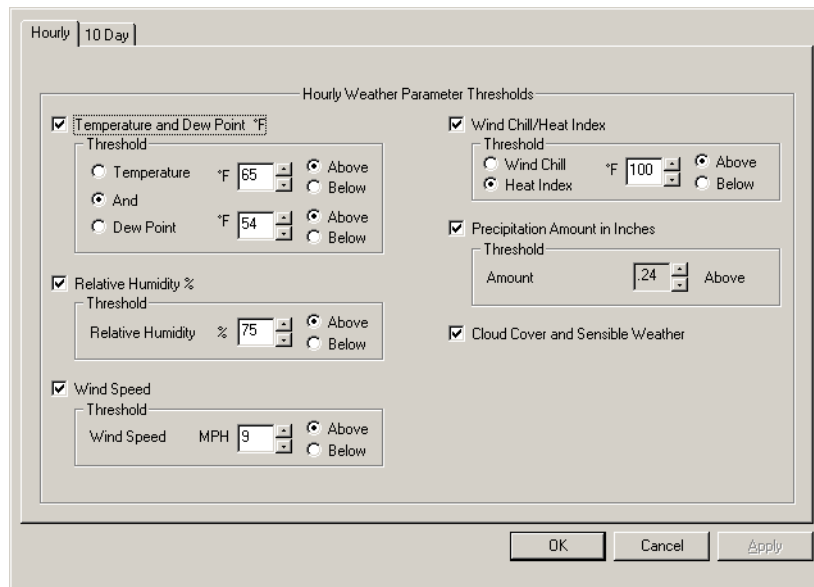
## Local Forecast Settings

Under the **Settings** tab you can select the parameters to view in the graph. You can also set thresholds to alert you when weather conditions may affect you or your business needs. Two tabs are available: **Hourly** and **10-Day**. Under **Hourly** you can set the parameters and thresholds for the hourly forecast. Under **10-Day** you can set the parameters and thresholds for the 10-day forecast.

## Chapter 8: Local Forecasts

Place a check mark next to each of the parameters to display. For most parameters you can set a threshold. Enter the threshold value in the box and select whether to be alerted to conditions above or below the value. For some thresholds, you will need to select between two parameters. For example, Wind Chill/Heat Index you need to set a threshold for either Wind Chill or Heat Index. You cannot set a threshold for both.

Settings can be changed at any time to adjust to changing seasons and business needs. For example, in the winter you can set a wind chill threshold but once conditions begin to warm, you may want to change the threshold parameter to heat index and change the value.

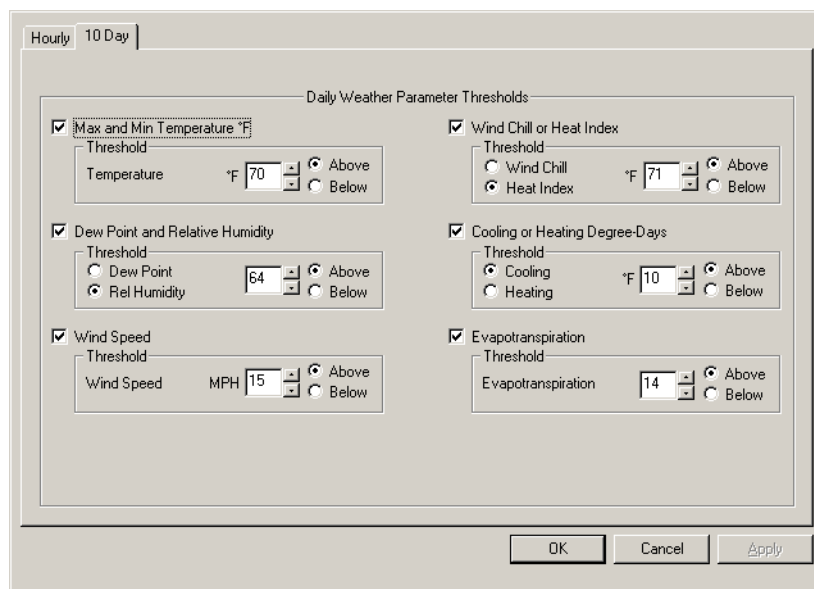


The dialog box is titled "Hourly Weather Parameter Thresholds". It has two tabs: "Hourly" and "10 Day", with "Hourly" selected. The dialog contains several sections, each with a checked checkbox and a threshold setting:

- Temperature and Dew Point °F**: Threshold for Temperature is 65°F (Above), and for Dew Point is 54°F (Above).
- Relative Humidity %**: Threshold for Relative Humidity is 75% (Above).
- Wind Speed**: Threshold for Wind Speed is 9 MPH (Above).
- Wind Chill/Heat Index**: Threshold for Heat Index is 100°F (Above).
- Precipitation Amount in Inches**: Threshold for Amount is .24 (Above).
- Cloud Cover and Sensible Weather**: This section is checked but has no threshold value.

At the bottom right are buttons for "OK", "Cancel", and "Apply".

Figure 8-6: Hourly Forecast Settings



The dialog box is titled "Daily Weather Parameter Thresholds". It has two tabs: "Hourly" and "10 Day", with "10 Day" selected. The dialog contains several sections, each with a checked checkbox and a threshold setting:

- Max and Min Temperature °F**: Threshold for Temperature is 70°F (Above).
- Dew Point and Relative Humidity**: Threshold for Rel Humidity is 64 (Above).
- Wind Speed**: Threshold for Wind Speed is 15 MPH (Above).
- Wind Chill or Heat Index**: Threshold for Heat Index is 71°F (Above).
- Cooling or Heating Degree-Days**: Threshold for Cooling is 10°F (Above).
- Evapotranspiration**: Threshold for Evapotranspiration is 14 (Above).

At the bottom right are buttons for "OK", "Cancel", and "Apply".

Figure 8-7: 10-Day Forecast Settings

## Historical Weather Data

You can view observed data up to 45 days in the past under the **Historical** tab. Data is available for the period starting the first of the previous month up to yesterday. So, there will not always be exactly 45 days of data available. The data is displayed for the city you selected for the forecasts. To view another city you need to select it by clicking the Map button. The appearance of the historical weather data is similar to the tabular forecasts.

Tabular	Graph	Historical	Settings											Map
Historical Data Wed 1/7														
LAKEVILLE [KLVN], MN														
Date	Thu 12/25	Fri 12/26	Sat 12/27	Sun 12/28	Mon 12/29	Tue 12/30	Wed 12/31	Thu 1/1	Fri 1/2	Sat 1/3	Sun 1/4	Mon 1/5	Tue 1/6	
Max Temperature °F	34	39	45	43	32	39	27	36	39	19	12	7	14	
Min Temperature °F	7	30	41	32	18	10	12	19	19	10	7	-2	0	
Average Dew Point °F	-	-	-	-	-	-	-	-	-	-	-	-	-	
Average Relative Humidity (%)	73	75	82	72	78	75	70	80	84	62	63	59	60	
Average Wind Speed MPH	5	10	14	10	12	12	8	3	12	12	12	13	14	
Sun (%)	100	100	30	40	40	70	50	25	55	100	80	-	75	
Amount of Precipitation (in)	None	None	None	None	None	None	None	None	None	None	None	None	None	
Deg Day C/H	0/45	0/31	0/22	0/28	0/40	0/41	0/46	0/38	0/36	0/51	0/56	0/63	0/58	
Cooling Degree Days Since Jan 1	671	671	671	671	671	671	671	0	0	0	0	0	0	
Heating Degree Days Since July 1	2594	2625	2647	2675	2715	2756	2802	2840	2876	2927	2983	3046	3104	

Figure 8-8: Historical Weather Data

## Chapter 9: Settings

The general parameters for MxVision AviationSentry® can be adjusted with **MxVision AviationSentry Settings**. The **MxVision AviationSentry Settings** window can be locked during the installation. If this option is selected, the **MxVision AviationSentry Settings** window will not be available to the user.

### Settings

General parameters for MxVision AviationSentry can be adjusted in the **MxVision AviationSentry Settings** window. These parameters include the data path, security settings, and printer setup. Eleven tabs are available: **Data**, **Text**, **Printer**, **Internet**, **DUATS**, **Security**, **General**, **Storm Tracking**, **Lightning Alarm**, **Precipitation Alarm**, and **Asset Locations**. Click the Settings button located to the right of the product display to access the **MxVision AviationSentry Settings** window.



### Data

Under this tab you can set the path to the data. In the top half of the window, type the directory path of the folder the data is stored in **Path**. If the data is stored on a server, click Change and enter the **Server IP Address** and **Endpoint**. You can also have the system search for the data directory by clicking Detect. If the data is on the same computer, click Use Local.

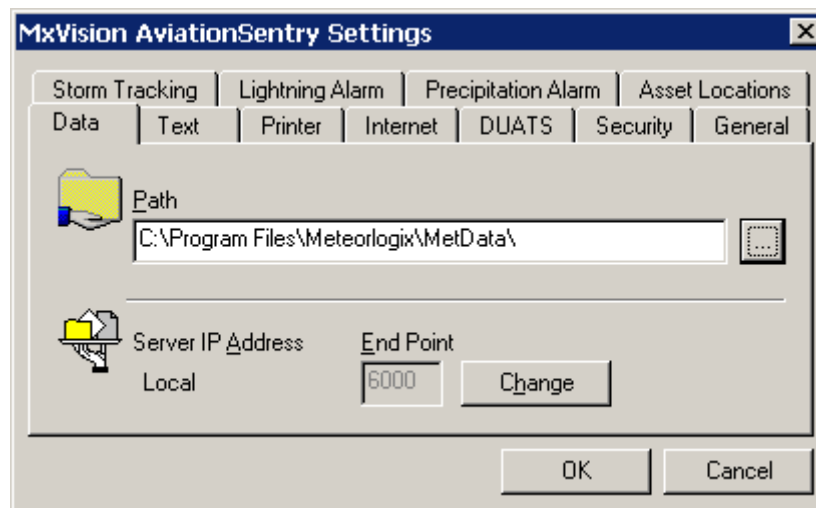


Figure 9-1: Data Settings



## Text

Under this tab you can set the directory path to where the text data is stored. Enter the location the text data is stored in **Database Path**.

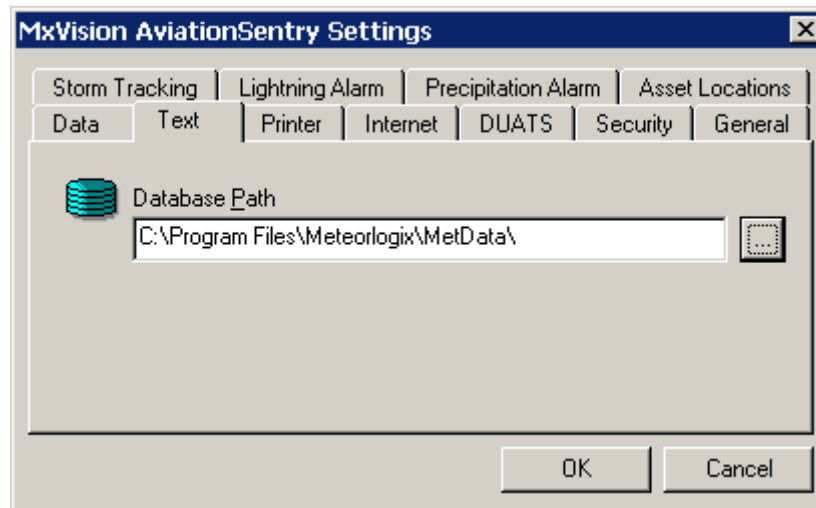


Figure 9-2: Text Settings

## Printer

Under this tab you can add and select printers as well as adjust the printer settings.

- Select a printer from the **Printer** drop down menu. All printers available on your system will appear in the drop down menu.
- Select whether to print in Color or Black & White from **Ink Options**.
- Select the orientation of the image on the paper when printing under **Orientation**. Choose between Portrait or Landscape.
- Click Add Printer and follow the **Add Printer Wizard** to add a printer.

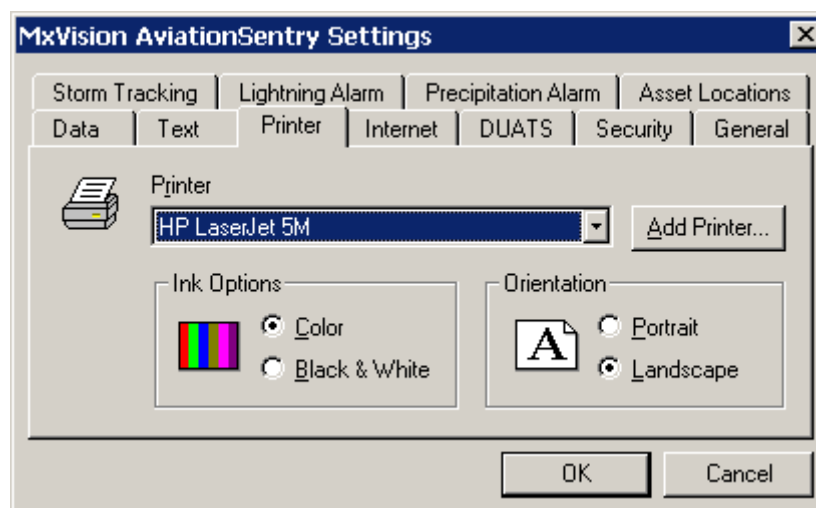


Figure 9-3: Printer Settings

## Internet

Under this tab you can set which Web sites are available from the Av. Links & DUATs button and whether the Av. Links & DUATs selection button will appear along with the other selection buttons. You must be connected to the Internet and be authorized to use this feature.

- The currently available Web sites are listed under **Internet Resources**. The order of the Web sites can be adjusted by highlighting the site and clicking the up and down arrows located under **Move**.
- Click **New** to add another Web site. Give the site a name in **Resource Name**. This will help you identify the Web site. Supply the Internet address in **URL**. Click **OK** when you are done.
- Click **Modify** to update the Web site address or name. Make the changes and click **OK**.
- A Web site can be removed by highlighting it and clicking **Remove**.
- Click **Setup** to make adjustments to the Internet setup. In this window you can set the home page, adjust the security settings, personal and content information, the connection, and what programs are used as a default for news groups, e-mail, etc.
- Make sure **Show Internet Button** is enabled to have the Internet selection button appear with the other selection buttons on the left side of the interface.
- Enable **Auto Disconnect** to have the system automatically disconnect from the Internet when left idle for a period of time.

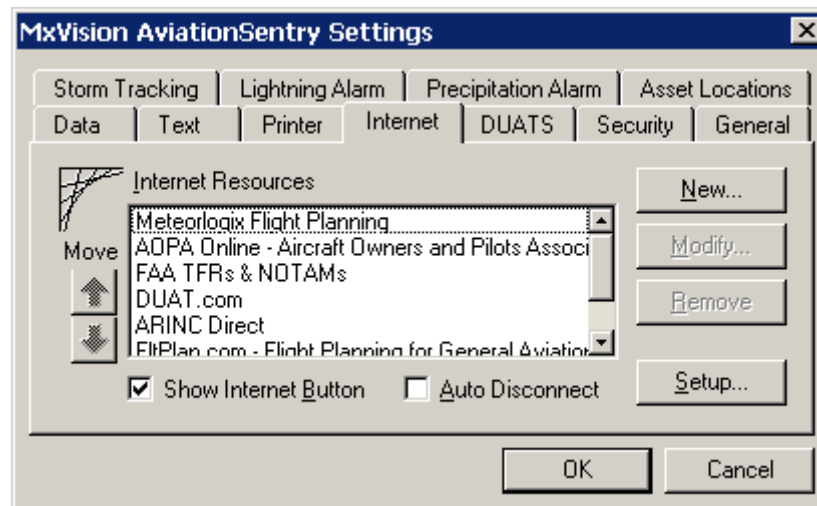


Figure 9-4: Internet Settings

## DUATS

You can set up the phone number and modem commands to dial into DUATS to file a flight plan.

- Enter the phone number to access DynCorp in **DynCorp Phone Number**.
- Enter the phone number to access DUATS through DTC in **DTC Phone Number**.
- If you need to dial 9 to access an outside line, make sure a check mark appears next to **Dial '9' for outside line**.
- Enable **Show DUATS button** to have the Av. Links & DUATS selection button appear along with the other selection buttons.
- Select the port the modem is connected to from **Port**.
- Enter the command to initialize the modem in **Modem Initialization**.
- Enter the command the modem uses to dial in **Modem Dial Command**.

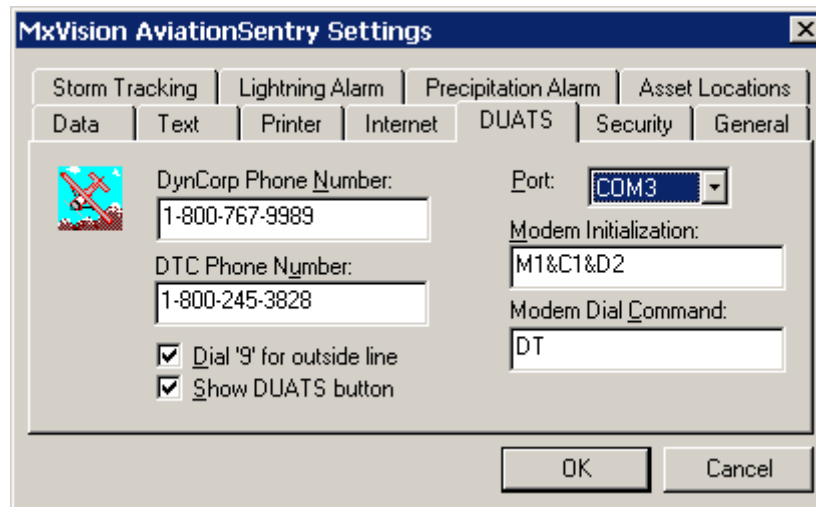


Figure 9-5: DUATS Settings

## Security

Several options are available under this tab to determine features that will be available to the user.

Allow Settings	Users will be able to access the <b>MxVision AviationSentry Settings</b> window without a password. Only available once a password is set.
Allow Close	Users will be able to close MxVision AviationSentry without a password. Only available once a password is set.
Minimize to System Tray	Users will be able to minimize MxVision AviationSentry to the system tray on the task bar.
Allow Windows Screen Saver	Determines if the screen saver will be enabled.
Screen Saver	Setup the screen saver. Click this button and the <b>Display Properties</b> window will open to the <b>Screen Saver</b> tab.
Password	For use on locked-down systems. Click this button to change your password.

Figure 9-6: Security Settings

## General

Settings that pertain to the general use of MxVision AviationSentry can be set under this tab. Four options are available:

Display Local Time	Display the time in the status area in local time.
Enable Sound Effects	Play sound effects.
Show Sweep on Current Radar	Display the sweep line on the current radar as it passes around the radar coverage area.
Allow "My Favorites" Changes	Allow products to be added or removed from the My Favorites product list.

You can select the distance unit used for measuring distance from **Distance**. Select from nautical mile (nm), statute mile (sm), or kilometer (km).

The number of hours of satellite or radar that is contained in a loop are displayed under **Initial loop size**. These settings cannot be changed.

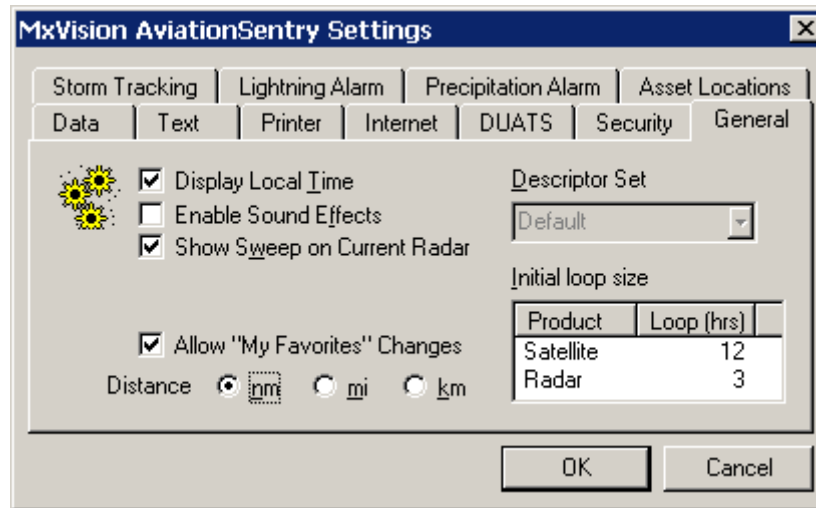


Figure 9-7: General Settings

### Storm Tracking

Under this tab you can select and edit storm tracking filters. These filters are used to determine which storms are tracked.

- Select the filter to use from **Preset Filter**. The filter will go into effect immediately and will not change until you change it.
- Four buttons are available to edit the filters:
 

Edit	Make changes to the selected filter.
New	Create a new filter.
Remove	Remove a filter. The default filters cannot be removed.
Rename	Give the filter a new name. The default filters cannot be renamed.
- For details on the filter attributes see **Storm Filter Settings** on page page 3-7.
- If you select the **Custom** database under **Database and Corridor Setup** in the storm tracking setup window an Edit Custom Database button will appear in the lower left corner of this tab. This option will make the custom database available even on locked-down systems.

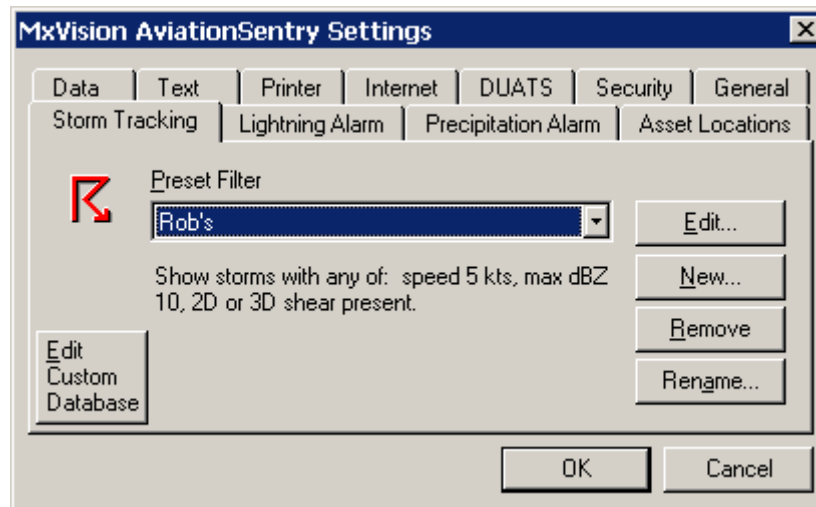


Figure 9-8: Storm Tracking Settings

## Lightning Alarm

Under this tab you can set and adjust the lightning data settings. The settings apply to both lightning data and lightning alarms.

- Under **Center point of coverage area** enable Select Center Point to set the center point of the range rings. Enter the latitude and longitude in decimal degrees.

**Note:** Longitude in Western Hemisphere are negative. For example, longitude for Minneapolis is -93°.

- Select the time period to display data on radar and in the second column of **Lightning Manager** in **Time Span**. The value can be up to 60 minutes.
- Set the range and alarm settings for the warning area under **Warning Area Radius**. Click **Configure** to adjust the settings in **Warning Alarm Configuration**.
  - Enter the radius in **Activate alarm when lightning is within**.
  - Make sure a check mark appears in **Enable Alarm** to be notified when lightning is detected in the radius you entered and display the range rings. Three notification options are available:
 

Popup	<b>Lightning Manager</b> will pop up in front of all windows.
Flash	Red lightning bolt icon on system tray will blink.
Play Sound File	An audio file will play when lightning is detected. Click the button to the right of Play Sound File to choose an audio file.
  - Enable **Restart alarm capability** after to determine when to reset the lightning alarm after you receive an alarm. This feature is useful after the thunderstorm arrives so you do not get alarms every minute during a thunderstorm.
- Set the range and alarm settings for the advisory area under **Advisory Area Radius**. Click **Config** to adjust the settings in **Advisory Alarm Configuration**.
  - Enter the radius in **Activate alarm when lightning is within**.
  - Make sure a check mark appears in **Enable Alarm** to be notified when lightning is detected in the radius you entered and the display the range rings. Three notification options are available:

- Popup                      **Lightning Manager** will pop up in front of all windows.
- Flash                      Red lightning bolt icon on system tray will blink.
- Play Sound File        An audio file will play when lightning is detected. Click the button to the right of Play Sound File to choose an audio file.

- Enable Restart alarm capability after to determine when to reset the lightning alarm after Silence Alarm is clicked in **Lightning Manager**. This feature is useful after the thunderstorm arrives so you do not get alarms every minute during a thunderstorm.
- Click the Lightning Manager button to view the **Lightning Manager** window.

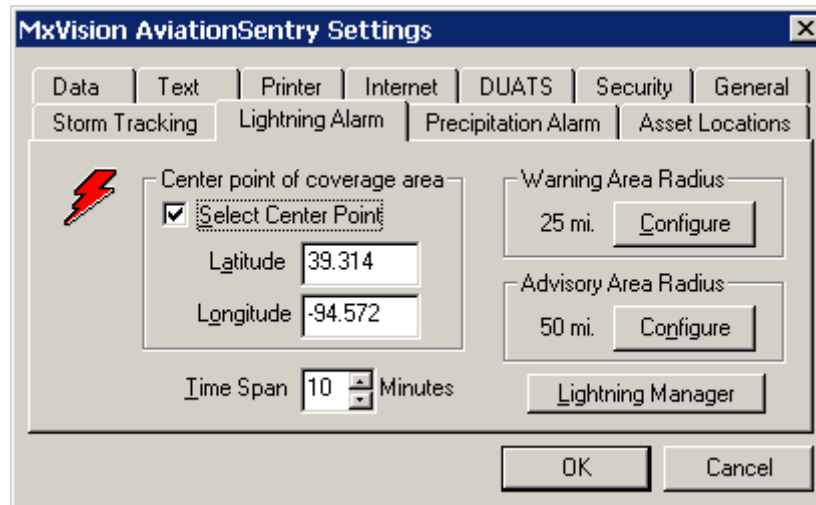


Figure 9-9: Lightning Settings

## Precipitation Alarm

Under this tab you can adjust the precipitation alert settings. A precipitation alert occurs when precipitation is detected within the lead-time you set.

- Select the method of alert when precipitation is detected under **When Precipitation is Detected**.
  - Show ETA Window displays the estimated start and end times of the detected precipitation.
  - Play Sound will play a .wav file when precipitation is detected. Choose a sound by clicking the button with three dots. Click the speaker icon to hear the sound.
- Set the amount of time in advance to be alerted to approaching precipitation by using the **Early Warning Lead Time** slider bar.
- Select the intensity of precipitation that must be occurring before you are alerted under **Precip Intensity Threshold**.

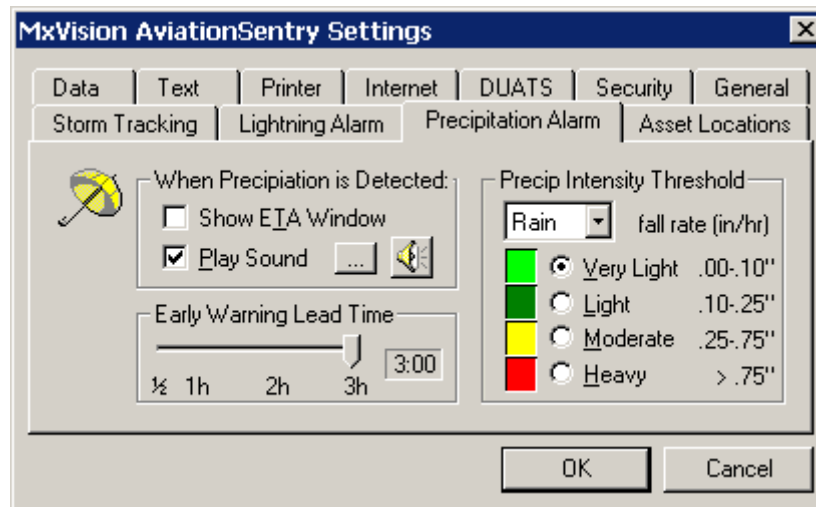


Figure 9-10: Precipitation Alarm Settings

## Asset Locations

Under this tab you can set, edit, or remove assets locations for PrecipTimer™. You can set up to six locations.

- Edit a location by clicking it and double-clicking the value to change.
- Create a new location by clicking New and entering the appropriate value.
- Remove a location by highlighting it and clicking Remove. Click Yes in the dialog box.
- For the icons and the corridor to appear, make sure Show assets & precipitation corridor on map is enabled.

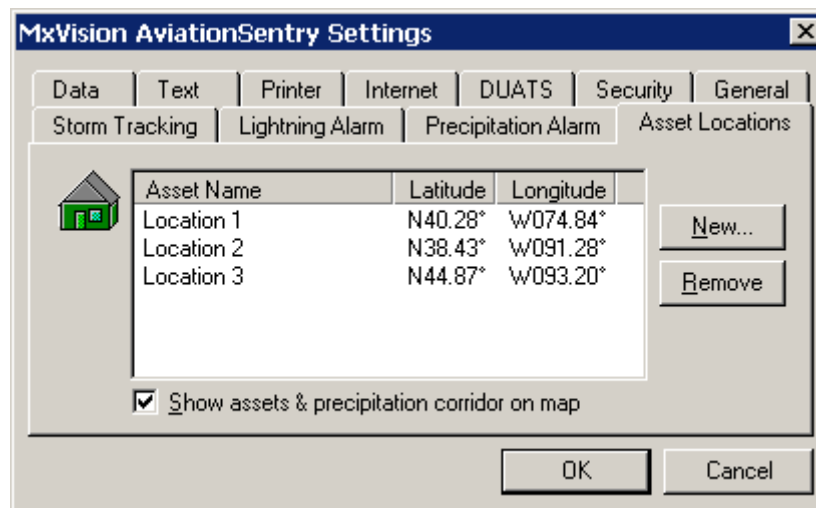


Figure 9-11: Asset Locations Settings

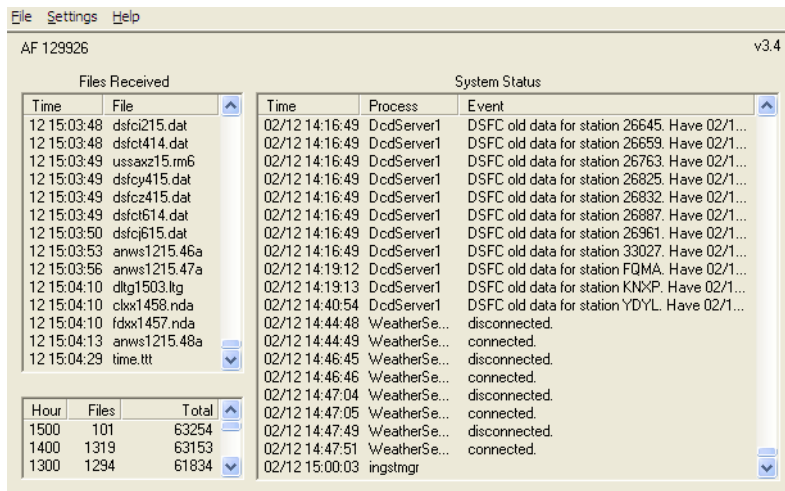
## Appendix A: Data Ingest

Ingest Monitor is responsible for receiving and processing the weather data from Meteorologix®. Using Ingest Monitor you can monitor the status of the data and adjust various settings that affect how data is received and processed.

### Ingest Monitor

The main window for the Ingest Monitor displays the current status of the data ingest. Three sections are available to check the status of the data:

- Files Received** Display the date and time each file is received.
- System Status** Displays general status information about the system.  
Displays the process that ran, when it ran, and what occurred.  
This information is also available in the log files.
- File Count Area** Lists the number of files that were accepted for each hour.  
Use the scroll bar to view the file counts up to the last 24 hours.



The screenshot shows the Ingest Monitor application window with the following sections:

Files Received		System Status	
Time	File	Time	Process
12 15:03:48	dsfci215.dat	02/12 14:16:49	DcdServer1
12 15:03:48	dsfci414.dat	02/12 14:16:49	DcdServer1
12 15:03:49	ussaxz15.rm6	02/12 14:16:49	DcdServer1
12 15:03:49	dsfci415.dat	02/12 14:16:49	DcdServer1
12 15:03:49	dsfci415.dat	02/12 14:16:49	DcdServer1
12 15:03:49	dsfci614.dat	02/12 14:16:49	DcdServer1
12 15:03:50	dsfci615.dat	02/12 14:16:49	DcdServer1
12 15:03:53	anws1215.46a	02/12 14:16:49	DcdServer1
12 15:03:56	anws1215.47a	02/12 14:19:12	DcdServer1
12 15:04:10	dlkg1503.ltg	02/12 14:19:13	DcdServer1
12 15:04:10	clxx1458.nda	02/12 14:40:54	DcdServer1
12 15:04:10	fdxx1457.nda	02/12 14:44:48	WeatherSe...
12 15:04:13	anws1215.48a	02/12 14:44:49	WeatherSe...
12 15:04:29	time.ttt	02/12 14:46:45	WeatherSe...
		02/12 14:46:46	WeatherSe...
		02/12 14:47:04	WeatherSe...
		02/12 14:47:05	WeatherSe...
		02/12 14:47:49	WeatherSe...
		02/12 14:47:51	WeatherSe...
		02/12 15:00:03	ingstmgr

Hour	Files	Total
1500	101	63254
1400	1319	63153
1300	1294	61834

Figure A-1: Ingest Monitor

### Menu Bar

Three menu options are available in Ingest Monitor: **File**, **Settings**, and **Help**. Each option is described below.



Option	Function
<b>File &gt; Messages</b>	View status messages from Meteorlogix.
<b>File &gt; Logs</b>	View the system log files.
<b>File &gt; Authorization</b>	View the products you are currently authorized to receive.
<b>File &gt; Version</b>	View the current version of Ingest Monitor and related applications.
<b>File &gt; Export</b>	Save your request and retention list to another location. Could be used to back up your request and retention files.
<b>File &gt; Import</b>	Retrieve a copy of your request or retention list.
<b>File &gt; Shut Down</b>	Stop Ingest Monitor from receiving and processing data.
<b>File &gt; Close</b>	Close the Ingest Monitor window.
<b>Settings &gt; Request List</b>	Adjust the request list. Not available on all systems.
<b>Settings &gt; Retention List</b>	Adjust the retention list. Not available on all systems.
<b>Settings &gt; AvSentry Settings</b>	Access the settings for Ingest Monitor.
<b>Settings &gt; WxEditor</b>	Access the WxEditor to view the status of alphanumeric products.
<b>Help</b>	Access additional information on Ingest Monitor and WxEditor.

## AvSentry Settings

Use the **AvSentry Settings** to set up the folders for log files, data ingest, temporary files, and more. You can also set how long the log files are saved and reset the file counters. Select **Settings > AvSentry Settings** to access **AvSentry Settings**.

Five directories can be set in this window. Set each directory by either entering the path or clicking Browse and searching for the directory.

<b>Ingest Data Path</b>	This directory contains the processed data files.
<b>Temporary Files Path</b>	This directory is used to temporarily store files that need to be converted from one format to another.
<b>Log Files Path</b>	The directory the log files are stored.
<b>Intranet Home Directory</b>	The home directory for MxVision WeatherWeb®. Typically not used on MxVision AviationSentry® systems.
<b>External Data Source</b>	This directory is to access data from an external source, such as weather sticks or another system. This directory is typically empty. You can have more than one external source by clicking Second Source.

Select how long to save the log files under **Hourly Log Retention**. You can save the files for either One day or One week. Select **File > Logs** to view the log files.

The file counters on the main display can be reset under **File Counters**. Click the Reset button to restart the counters at zero.

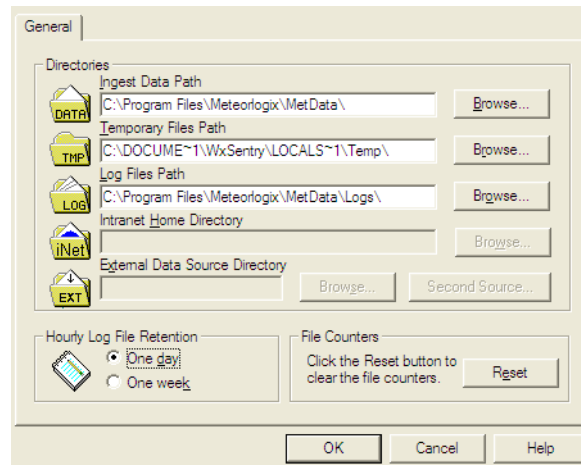


Figure A-2: AvSentry Settings

## WxEditor

Select **Settings > WxEditor** to access the **WxEditor** interface

**Warning!** Please contact Customer Service before making changes to WxEditor. Changes to WxEditor could cause serious harm to MxVision AviationSentry.

The **WxEditor** interface consists of five tabs: **Status**, **Database**, **Ingest**, **Auto Print**, and **General**.

- Status** Monitor the status and diagnose problems related to data processing.
- Database** Displays the list of products stored on the hard drive.
- Ingest** Displays alphanumeric files received from the satellite link.
- Auto Print** Set up products to automatically print.
- General** Contains options for the database and **WxEditor**.

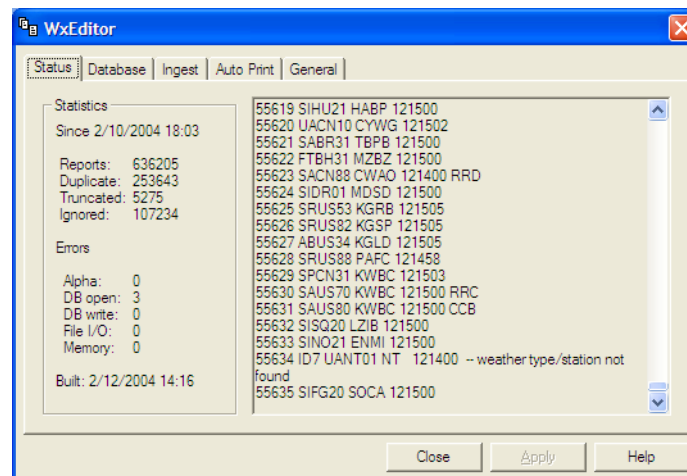


Figure A-3: WxEditor Window (Status Tab)

## Status

The **Status** tab contains various statistics for monitoring the status of and diagnosing problems related to data processing. There are two parts to the tab: **Statistics** and processed report list.

### Statistics

The **Statistics** section displays the starting date and time at the top. It also displays the following:

<b>Reports</b>	The number of reports processed.
<b>Duplicate</b>	The number of duplicate reports processed.
<b>Truncated</b>	The number of reports truncated.
<b>Ignored</b>	The number of reports ignored and not placed in the database.
<b>Alpha</b>	The number of alphanumeric files that could not be read.
<b>DB Open</b>	The number of database files that could not be opened.
<b>DB Write</b>	The number of database files that could not be written.
<b>File I/O</b>	The number of read/write file operations that failed.
<b>Memory</b>	The number of memory allocations which failed.
<b>Built</b>	Date and time of the last database build.

**Note:** If new RDB descriptor files have been received, the **Build** line may read **RDB update received**.

### Processed Report List

On the right side of the window the World Meteorological Organization (WMO) header of each product processed is displayed. Each code consists of a five or six character code that identifies the type of report (forecast, observed data, warning, etc.) followed by the identifier of the station creating the report and the date and time group.

### Database

This tab displays the currently selected products in the database. This defines which products will be stored on the hard drive, the number of products to keep, the maximum product size allocated, and the issuing station.

At the top of the tab you can select a **Product Group** to help filter the products listed in the window below.

The main portion of the tab contains the list of products and descriptions. There are four columns: **Product**, **Report Description**, **Retain**, and **Length**.

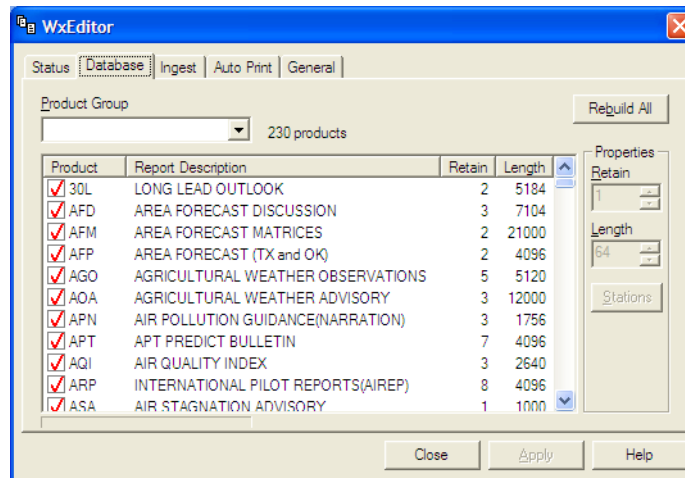


Figure A-4: Database Tab of WxEditor

## Product

Displays a check box along with the product identifier. The identifiers are only visible if Show Product Labels is selected under the **General** tab. The check box indicates the products to be kept on the hard drive. Right-click in the window and choose Select All to choose all the products.

## Report Description

Displays a description of the what is contained in the product.

## Retain

Displays the number of products to keep on the hard drive. As a new product arrives it overwrites the oldest product.

## Length

Displays the maximum length allocated for the file.

## Properties

Set the retention and length by entering the value in the boxes below **Retain** and **Length** or by using the up and down arrows. Click Stations to select the issuing stations for the selected product. Enter either the four character identifier in **Station** or the name in **Location** to add a station.

## Rebuild All

The Rebuild All button recreates the database files. Building results in space being allocated on the hard drive to store each product type. The size of each file is determined by the length of the product, the number of products retained, and the number of stations for the product.

## Ingest

The **Ingest** tab displays the alphanumeric data files received from the Meteorlogix satellite link. Four classes of data files are displayed: NWS Priority, NWS Alpha, FAA Priority, and FAA Alpha. The NWS files are received from the National Weather Service's Family of Services (FOS) feed.

The FAA files are received from the Federal Aviation Administration's (FAA) 604 data feed. The name of each file in each class is displayed along with the time and a sequence number.

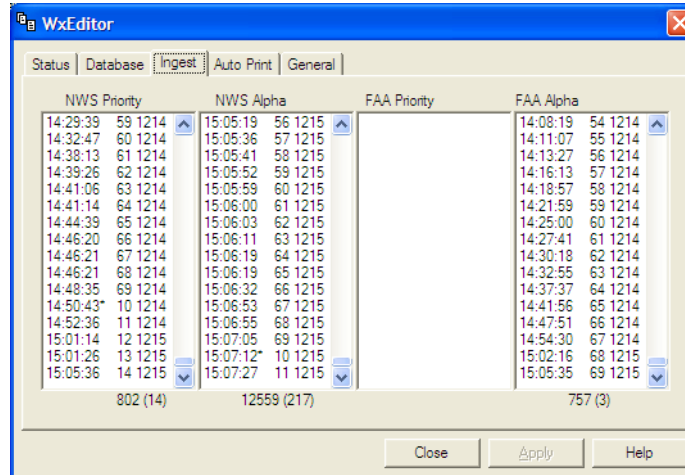


Figure A-5: Ingest Tab of WxEditor

## Auto Print

Under this tab you can set up products to automatically print. These products do not need to be in a product list to be printed. There are four sections to the tab: **Products to Print**, **Printer Setup**, **Product Selection**, and **Auto Print Lists**.

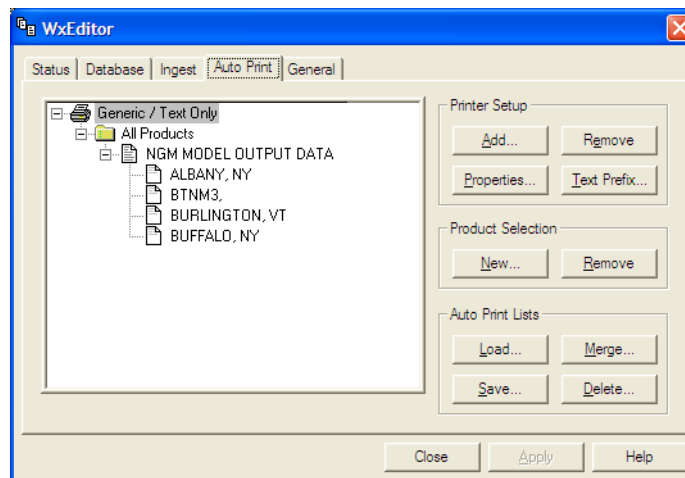


Figure A-6: Auto Print Tab of WxEditor

## Products to Print

This portion of the tab encompasses the left half of the window. The list of products currently set to print appear here. The products are grouped by header.

## Printer Setup

Under this section you can set up and adjust the properties of the printers. There are four buttons in this section: Add, Remove, Properties, and Text Prefix.

- Add** Add one or more printers to the list.
- Remove** Remove the selected printer (and its products) from the list.
- Properties** Change the printer options. This includes the selected printer and display font.
- Text Prefix** Set the prefix and suffix text strings for each report. This is a global setting that affects all printers.

### Product Selection

Under this section you can add and remove products from the auto print list. Two buttons are available: New and Remove.

- |        |  |
|--------|--|
| New    | Add one or more products to the selected printer. Uses the <b>Add Products</b> window.   |
| Remove | Remove one or more stations, products, or product groups from the selected printer. The highlighted item along with the subordinate items are removed. |

### Auto Print Lists

Under this tab you can save auto print lists to the hard drive and load them at a later time. You can also use this feature to switch to a different set of products. There are four buttons: Load, Save, Merge, and Delete.

- |        |  |
|--------|--|
| Load   | Replace the current list with a previously saved list. |
| Save   | Save the current list to the hard drive.               |
| Merge  | Merge a saved list with the current list.              |
| Delete | Delete a list saved on the hard drive.                 |

### General

Update general properties of **WxEditor**. There are four sections under this tab: **Database Path**, **Build Options**, **WxEditor Options**, and **Statistics**.

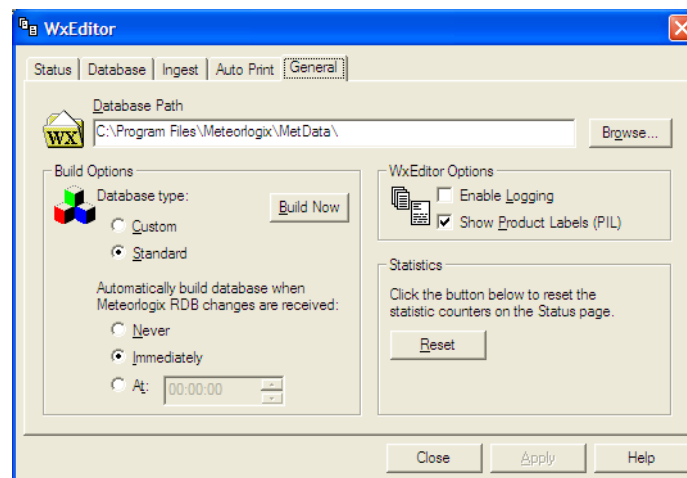


Figure A-7: General Tab of WxEditor

### Database Path

This section contains the path to the current database. Only one database can be active. Click Browse to search for the database path.

### Build Options

You can select whether to display a custom or standard database.

- The custom database is one where you have adjusted the number of products, length of products, or the number of stations.
- The standard database uses the default values from Meteorlogix.

Occasionally, Meteorlogix will send RDB changes. You can choose when to rebuild the database after these changes have been received.

Never	The only time the database is rebuilt is when the Build Now button is clicked.
Immediately	The database will be rebuilt when the changes are received.
At	The database will rebuilt at the next time the selected time is reached after receipt of the changes.

The Build Now button can be clicked at anytime to recreate the database. This is independent of the settings under **Build Options**.

### WxEditor Options

Two additional options are available for **WxEditor**.

- Select Enable Logging to log error information from **WxEditor**.
- Select Show Product Labels (PIL) to display the Product Identification Labels (PIL) under the **Database** tab.

### Statistics

Click Reset to reset the counters under the **Status** tab.

## Appendix B: VTEC

Note: Meteorlogix® will be writing software to parse the text of the National Weather Service (NWS) bulletins to look for the type of advisory, watch, or warning. The software will look for exact matches to text, such as “Blizzard Watch,” “Ice Storm Warning,” or “Lake Snow Advisory.” If a bulletin contains a match for that text, the software will place the type indicator in the file and the user color selection will be displayed. However, if a bulletin does not contain matching text, the software will revert to a generic “Winter Weather Advisory” type.

In addition, since VTEC (Valid Time Event Code) is not scheduled to become operational until early 2005, other event-specific information will not be decoded in this current scheme. This would include information that will be part of the VTEC code, such as bulletin extension in time and area, cancellations, or updates. As a result, the software will have no way of knowing that the new issuance of a bulletin is really an update to a previous bulletin. When VTEC becomes operational, this information will be made available to all Meteorlogix software.

### Warning Hierarchy




























1. Tornado Warning
2. Severe Thunderstorm Warning
3. Flash Flood Warning
4. Tornado Watch
5. Severe Thunderstorm Watch
6. Flash Flood Watch
  
7. Flood
8. Blizzard
9. Winter Storm
10. Winter Weather
11. Freezing Rain
12. Ice Storm
13. Heavy Snow
14. Snow
15. Lake Effect Snow
16. Snow/Blowing Snow
17. Blowing/Drifting Snow
18. Heavy Sleet
19. Sleet
20. Freezing Fog
21. Wind Chill
22. High Wind



























- 23. Wind
- 24. Excessive Heat
- 25. Heat
- 26. Dense Fog
- 27. Freeze
- 28. Frost

The hierarchy includes all warnings first, then all watches, then all advisories.

## VTEC Icons

Bulletin Type	Icon
Air Stagnation	
Blizzard (unknown type)	
Blizzard Warning	
Blizzard Watch	
Blowing Dust	
Blowing Snow (unknown type)	
Blowing Snow Warning	
Blowing Snow Watch	
Coastal Flood (all types)	
Dust Storm (all types)	
Excessive Heat (all types)	
Flash Flood Warning	
Flash Flood Watch	
Flood Warning	
Flood Watch	
Fog (all types)	
Freeze (all types)	
Freezing Fog (all types)	
Frost (all types)	
Heat (all types)	
Heavy Snow (unknown type)	
Heavy Snow Warning	
Heavy Snow Watch	
High Wind (all types)	
Hurricane (unknown type)	
Hurricane Warning	
Hurricane Watch	
Lakeshore Flood (all types)	

Bulletin Type	Icon
Lake Effect Snow (unknown type)	
Lake Effect Snow Warning	
Lake Effect Snow Watch	
Lake Wind (all types)	
Non Precipitation (all types)	
Severe Thunderstorm Warning	
Severe Thunderstorm Watch	
Sleet (all types)	
Smoke (all types)	
Snow (unknown type)	
Snow Warning	
Snow Watch	
Tornado Warning	
Tornado Watch	
Tropical Depression (all types)	
Tropical Storm (all types)	
Wind (all types)	
Wind Chill (all types)	
Winter (unknown type)	
Winter Storm (unknown type)	
Winter Storm Warning	
Winter Storm Watch	
Winter Weather Warning	
Winter Weather Watch	

### Issuance Criteria

#### Air Stagnation Advisory

Atmospheric conditions are stable enough to cause air pollutants to accumulate in an area. Criteria is set by a local or state governmental environmental group and issued at their request.

#### Ashfall Advisory

Ash plume resulting from a volcanic eruption reducing visibility at the ground and in the air. No minimum threshold exists.

#### Blizzard Warning

There is an 80 percent or greater chance of blizzard conditions within the next 24 hours. Blizzard conditions are defined as the following for at least three hours:

- Sustained winds or frequent gusts of at least 35 miles per hour (mph) (30 knots)
- Falling or blowing snow
- Visibility frequently  $\frac{1}{4}$  mile or less

#### Blizzard Watch

There is a 50 percent or greater chance of blizzard conditions within the next 48 hours. Blizzard conditions are defined as the following for at least three hours:

- Sustained winds or frequent gusts of at least 35 miles per hour (mph) (30 knots)
- Falling or blowing snow
- Visibility frequently  $\frac{1}{4}$  mile or less

#### Blowing Dust Advisory

Widespread or localized blowing dust reducing visibility to one mile or less but greater than  $\frac{1}{4}$  mile. Winds of 25 mph (21 knots) are usually required.

#### Blowing Snow Advisory

Widespread or localized blowing snow reducing visibilities to  $\frac{1}{4}$  mile or less but winds are less than 35 mph (30 mph).

#### Coastal/Lakeshore Flood Warning

Inundation of land areas by sea water or Great Lakes water over and above normal tides posing a serious threat to life and property is imminent, occurring, or highly likely in the next 12 hours.

#### Coastal/Lakeshore Flood Watch

Conditions are favorable for the inundation of land areas by sea water or Great Lakes water over and above normal tides within the next 12 to 36 hours.

#### Dense Fog Advisory

Widespread or localized fog reducing visibilities to  $\frac{1}{4}$  mile or less.

#### Dense Smoke Advisory

Widespread or localized smoke reducing visibilities to  $\frac{1}{4}$  mile or less.

#### Dust Storm Warning

Widespread or localized blowing dust reducing visibilities to  $\frac{1}{4}$  mile or less. Sustained winds of at least 25 mph (21 knots) are usually required.

**Excessive Heat Warning**

Heat index values are forecast to meet or exceed locally defined criteria for at least two days.

Typical values:

- Maximum daily heat index meets or exceeds 105° F (40° C) in northern areas or 110° F (43° C) in southern areas
- Nighttime lows of 75° F (24° C) or greater

***Central Region Criteria***

Heat index of at least 115° F (46° C) for at least three hours and an overnight low around 80° F (27° C). These values can be locally adjusted.

**Excessive Heat Watch**

Conditions are favorable for excessive heat to exceed local criteria in the next 12 to 48 hours.

Typical values:

- Maximum daily heat index meets or exceeds 105° F (40° C) in northern areas or 110° F (43° C) in southern areas
- Nighttime lows of 75° F (24° C) or greater

***Central Region Criteria***

Heat index of at least 115° F (46° C) for at least three hours and an overnight low around 80° F (27° C). These values can be locally adjusted.

**Extreme Cold Warning - Alaska Region Only**

Air temperatures exceeding locally defined criteria for a prolonged period of time.

**Flash Flood Warning**

Flash flooding is reported, precipitation estimates indicating flash flooding is likely, or dam/levee failure is imminent or occurring. Flash flooding is short-fused and typically occurs within six hours of a causative event.

**Flash Flood Watch**

Conditions are favorable for flash flooding. Dam/levee failure is possible but not imminent. Flash flooding is short-fused and typically occurs within six hours of a causative event.

**Flood Warning**

Flooding is expected for more than six hours after an event which produced the flooding. Also issued for river points when flooding is expected. For river points a warning can be issued 36 hours or more in advance if forecasts determine flooding is likely.

Can be issued for counties, parts of counties, streams and rivers, or parts of streams and rivers.

**Flood Watch**

Conditions are favorable for flooding beyond six hours after an event.

**Freeze Warning**

Minimum shelter temperature is forecast to be 32° F (0° C) or less during the freeze season. The freeze season is usually during the Fall and Spring growing seasons.

### **Freeze Watch**

Conditions are favorable for freezing conditions in the next 12 to 48 hours during the freeze season. The freeze season is locally defined and usually occurs in Fall and Spring growing seasons.

### **Freezing Fog Advisory**

Very light ice accumulation from predominantly freezing fog.

### **Freezing Rain Advisory**

There is an 80 percent or greater chance of light ice accumulations (freezing rain or freezing drizzle) meeting or exceeding locally defined advisory criteria but remaining below warning criteria.

### **Frost Advisory**

Minimum shelter temperature forecast between 33 and 36° F (0.6 and 2° C) during the frost (freeze) season. Usually in the Fall and Spring growing seasons.

### **Gale Warning**

Predicted or occurring one-minute sustained winds in the range of 39 to 54 mph (34 to 47 knots) not associated with a tropical system.

### **Heat Advisory**

Heat index values forecast to meet or exceed locally defined advisory criteria for at least two days. Typical values:

- Maximum heat index of at least 100° F (38° C) north or 105° F (40° C) south
- Nighttime lows of at least 75° F (24° C)

#### *Central Region Criteria*

Heat index of 105° F (40° C) or greater for at least three hours and an overnight low of around 80° F (27° C).

### **Heavy Sleet Warning**

There is an 80 percent or greater chance of sleet accumulations meeting or exceeding locally defined criteria within the next 24 hours.

### **Heavy Snow and Blowing Snow Warning**

There is an 80 percent or greater chance of the following within the next 24 hours:

- Snow accumulation that meets or exceeds locally defined warning criteria
- Sustained wind or frequent gusts of 24 to 34 mph (20 to 30 knots) (or locally defined) accompanied by falling and blowing snow
- Visibility occasionally reduced to ¼ mile or less for at least three hours.

#### *Western Region Criteria*

Generally, four inches or more in 12 hours or six inches or more in 24 hours. However, it is locally defined in areas with significant terrain differences.

***Central Region Criteria***

Generally, six inches or more in 12 hours or eight inches or more in 24 hours with the following exceptions:

Mountains CO, WY, E UT	locally defined
KY, S MO, S IL, S IN	four inches in 12 hours or six inches in 24 hours
Upper Peninsula, MI	eight inches in 12 hours or 10 inches in 24 hours

**High Wind Warning**

The following conditions not associated with severe local storms, however can be locally defined.

- Sustained winds (one-minute) average of 40 mph (35 knots) or greater lasting one hour or longer
- Sustained winds of 58 mph (50 knots) or greater for any duration

***Central Region Criteria***

In the mountains of Colorado, Wyoming, and eastern Utah:

- Sustained winds of 50 mph (43 knots) or greater lasting one hour or longer
- Sustained winds or gust of 75 mph (65 knots) or greater for any duration

**High Wind Watch**

Conditions are favorable for winds to exceed high wind warning criteria in the next 12 to 48 hours.

**Hurricane Warning**

Sustained winds (one-minute average) associated with a tropical system in excess of 74 mph (64 knots) are expected in 24 hours or less. May also remain in effect when dangerously high water or combination of high water and high waves continue even if the winds subside.

**Hurricane Watch**

Hurricane conditions (winds in excess of 74 mph (64 knots)) are possible within 36 hours.

**Ice Storm Warning**

There is an 80 percent or greater chance of ice accumulations meeting or exceeding locally defined criteria within the next 24 hours.

**Inland Hurricane Warning**

Hurricane conditions (sustained winds of 74 mph (64 knots)) are possible inland within 24 hours.

**Inland Hurricane Watch**

Hurricane conditions (sustained winds of 74 mph (64 knots)) are possible inland within the next 36 hours.

**Inland Tropical Storm Warning**

Tropical Storm conditions (sustained winds of 39 to 73 mph (34 to 63 knots)) are expected inland within the next 24 hours.

**Inland Tropical Storm Watch**

Tropical Storm conditions (sustained winds of 39 to 73 mph (34 to 63 knots)) are expected inland within the next 36 hours.

### **Lake Effect Snow Advisory**

There is an 80 percent or greater chance of widespread or localized lake induced snow squalls or heavy showers producing snowfall accumulations meeting or exceeding local advisory defined criteria within the next 24 hours but remained below warning criteria.

### **Lake Effect Snow Warning**

There is an 80 percent or greater chance of widespread or localized lake induced snow squalls or heavy showers producing snowfall accumulations meeting or exceeding locally defined warning criteria within the next 24 hours.

### **Lake Effect Snow Watch**

There is a 50 percent or greater chance of widespread or localized lake induced snow squalls or heavy showers producing snowfall accumulations meeting or exceeding locally defined criteria in the next 12 to 48 hours.

### **Lake Wind Advisory**

Sustained winds of 20 to 29 mph (17 to 25 knots) (or locally defined) lasting for at least one hour for regions with a significant user community. Need is locally defined.

### **Severe Thunderstorm Warning**

Spotters report or radar detects the following:

- Winds of 58 mph (50 knots) or greater
- Hail of ¾ inch in diameter or greater

### **Severe Thunderstorm Watch**

Conditions are favorable for thunderstorms containing the following:

- Winds of 58 mph (50 knots) or greater
- Hail of ¾ inch in diameter or greater

### **Sleet Advisory**

There is an 80 percent or greater chance of sleet accumulations meeting or exceeding locally defined advisory criteria but remaining below warning criteria.

### **Small Craft Advisory**

Winds or seas that could cause hazards to small craft. Criteria is locally defined, but usually requires winds in excess of 20 to 25 knots and seas of in excess of 5 feet. These advisories are also issued on the Great Lakes.

### **Snow Advisory**

There is an 80 percent or greater chance of snow accumulations meeting or exceeding locally defined criteria within the next 24 hours. Accumulations for an advisory result in significant inconveniences and if caution is not taken, could lead to a life-threatening situation.

### **Snow and Blowing Snow Advisory**

There is an 80 percent or greater chance of the following conditions during the next 24 hours:

- Sustained wind or frequent gusts between 25 and 34 mph (21 to 30 knots) (or locally defined)
- Falling or blowing snow
- Visibilities occasionally reduced to ¼ mile or less



### **Special Marine Warnings**

- Winds of 39 mph (34 knots) or greater for two hours or less and/or
- Hail of ¾ inch or larger in diameter and/or
- Waterspouts

### **Tornado Warning**

Spotters report or radar detects a tornado.

### **Tornado Watch**

Conditions are favorable for tornadoes.

### **Tropical Storm Warning**

Sustained winds (one-minute average) associated with a tropical system between 39 and 73 mph (34 and 63 knots) are expected in 24 hours or less.

### **Tropical Storm Watch**

Sustained winds (one-minute average) associated with a tropical system between 39 and 73 mph (34 and 63 knots) are expected in 36 hours.

### **Wind Advisory**

Sustained wind speeds of 30 to 39 mph (26 to 34 knots) for at least one hour. Can be locally defined.

### **Wind Chill Advisory**

Wind chill temperatures reaching or exceeding locally defined advisory criteria, but remaining below warning criteria.

### **Wind Chill Warning**

Wind chill temperature reaching or exceeding locally defined warning criteria (typically -18° F (-27° C) or colder).

### **Wind Chill Watch**

Conditions are favorable for wind chill warning criteria being exceeded in the next 12 to 48 hours.

### **Winter Storm Warning**

There is an 80 percent or greater chance of more than one winter weather hazard (ice, snow, sleet, etc.) meeting or exceeding locally defined criteria within the next 24 hours.

### **Winter Storm Watch**

There is a 50 percent or greater chance of a hazardous winter weather event in the next 12 to 48 hours.

### **Winter Weather Advisory**

There is an 80 percent or greater chance of more than one winter weather hazard (ice, snow, sleet, etc.) meeting or exceeding locally defined advisory criteria but remaining below warning criteria.

### **Winter Storm Warning**

There is an 80 percent or greater chance or more than one winter weather hazard (ice, snow, sleet, etc.) meeting or exceeding locally defined criteria within the next 24 hours.

### **Winter Storm Watch**

There is a 50 percent or greater chance of a hazardous winter weather event in the next 12 to 48 hours.

Source: NWS Directives System

## Appendix C: NEXRAD Radar Sites

### By Location

Location	State	ID	Location	State	ID
Aberdeen	SD	KABR	Corpus Christi	TX	KCRP
Albany	NY	KENX	Denver	CO	KFTG
Albuquerque	NM	KABX	Des Moines	IA	KDMX
Amarillo	TX	KAMA	Detroit	MI	KDTX
Atlanta	GA	KFFC	Dodge City	KS	KDDC
Beale AFB	CA	KBBX	Dover	DE	KDOX
Billings	MT	KBLX	Duluth	MN	KDLH
Binghamton	NY	KBGM	Dyess AFB (Abilene)	TX	KDYX
Birmingham	AL	KBMX	East Alabama (Carrville)	AL	KMXX
Bismarck	ND	KBIX	Edwards AFB	CA	KEYX
Boise	ID	KCBX	Eglin AFB (NW FL)	FL	KEVX
Boston	MA	KBOX	El Paso	TX	KEPZ
Brandon	MS	KDGX	Elko	NV	KLRX
Brownsville	TX	KBRO	Eureka	CA	KBHX
Buffalo	NY	KBUF	Evansville	IN	KVWX
Burlington	VT	KCXX	Fargo/Grand Forks	ND	KMVX
Cannon AFB	NM	KFDX	Flagstaff	AZ	KFSX
Caribou	ME	KCBW	Frederick	OK	KFDR
Cedar City	UT	KICX	Fort Campbell	KY	KHPX
Central Illinois (Lincoln)	IL	KILX	Fort Hood (Granger)	TX	KGRK
Charleston	SC	KCLX	Fort Polk	LA	KPOE
Charleston	WV	KRLX	Fort Rucker	AL	KEOX
Cheyenne	WY	KCYS	Fort Worth	TX	KFWS
Chicago	IL	KLOT	Glasgow	MT	KGGW
Cleveland	OH	KCLE	Goodland	KS	KGLD
Columbia	SC	KCAE	Grand Island	NE	KUEX
Columbus AFB	MS	KGWX	Grand Junction	CO	KGJX

## Appendix C: NEXRAD Radar Sites

Location	State	ID	Location	State	ID
Grand Rapids	MI	KGRR	New York City	NY	KOKX
Great Falls	MT	KTFX	Norfolk	VA	KAKQ
Green Bay	WI	KGRB	North Platte	NE	KLNX
Greer	SC	KGSP	Northeastern Alabama	AL	KHTX
Holloman AFB	NM	KHDX	Northern Indiana	IN	KIWX
Houston	TX	KHGX	Oklahoma City	OK	KTLX
Idaho Falls	ID	KSFX	Omaha	NE	KOAX
Indianapolis	IN	KIND	Paducah	KY	KPAH
Jackson	KY	KJKL	Pendleton	OR	KPDT
Jacksonville	FL	KJAX	Philadelphia	PA	KDIX
Key West	FL	KBYX	Phoenix	AZ	KIWA
Knoxville	TN	KMRX	Pittsburgh	PA	KPBZ
Kohala	HI	PHKM	Pleasant Hill	MO	KEAX
La Crosse	WI	KARX	Portland	ME	KGYX
Lake Charles	LA	KLCH	Portland	OR	KRTX
Las Vegas	NV	KESX	Pueblo	CO	KPUX
Laughlin AFB (Del Rio)	TX	KDFX	Quad Cities (Davenport)	IA	KDVN
Little Rock	AR	KLZK	Raleigh/Durham	NC	KRAX
Los Angeles	CA	KVTX	Rapid City	SD	KUDX
Louisville	KY	KLVX	Reno	NV	KRGX
Lubbock	TX	KLBB	Riverton	WY	KRIW
Marquette	MI	KMQT	Roanoke	VA	KFCX
Medford	OR	KMAX	Sacramento	CA	KDAX
Melbourne	FL	KMLB	Salt Lake City	UT	KMTX
Memphis	TN	KNQA	San Angelo	TX	KSJT
Miami	FL	KAMX	San Antonio	TX	KEWX
Midland	TX	KMAF	San Diego	CA	KNKX
Milwaukee	WI	KMKX	San Francisco	CA	KMUX
Minneapolis	MN	KMPX	San Joaquin Valley	CA	KHNX
Minot	ND	KMBX	San Juan	PR	TJUA
Missoula	MT	KMSX	Santa Ana Mountains	CA	KSOX
Mobile	AL	KMOB	Seattle	WA	KATX
Molkai	HI	PHMO	Shreveport	LA	KSHV
Montague	NY	KTYX	Sioux Falls	SD	KFSD
Moody AFB	GA	KVAX	Slidell (New Orleans)	LA	KLIX
Morehead City	NC	KMHX	South Kauai	HI	PHKI
N.C. Lower Michigan	MI	KAPX	Spokane	WA	KOTX
Nashville	TN	KOHX	Springfield	MO	KSGF

Location	State	ID	Location	State	ID
St Louis	MO	KLSX	Vandenberg AFB	CA	KVBX
State College	PA	KCCX	Warner Robins	GA	KJGX
Tallahassee	FL	KTLH	Washington	DC	KLWX
Tampa Bay	FL	KTBW	Western Arkansas	AR	KSRX
Topeka	KS	KTWX	Wichita	KS	KICT
Tucson	AZ	KEMX	Wilmington	OH	KILN
Tulsa	OK	KINX	Wilmington	NC	KLTX
Vance AFB (Enid)	OK	KVNX	Yuma	AZ	KYUX

## By Identifier

ID	Location	State	ID	Location	State
KABR	Aberdeen	SD	KDAX	Sacramento	CA
KABX	Albuquerque	NM	KDDC	Dodge City	KS
KAKQ	Norfolk	VA	KDFX	Laughlin AFB (Del Rio)	TX
KAMA	Amarillo	TX	KDGX	Brandon	MS
KAMX	Miami	FL	KDIX	Philadelphia	PA
KAPX	N.C. Lower Michigan	MI	KDLH	Duluth	MN
KARX	La Crosse	WI	KDMX	Des Moines	IA
KATX	Seattle	WA	KDOX	Dover	DE
KBBX	Beale AFB	CA	KDTX	Detroit	MI
KBGM	Binghamton	NY	KDVN	Quad Cities (Davenport)	IA
KBHX	Eureka	CA	KDYX	Dyess AFB (Abilene)	TX
KBIS	Bismarck	ND	KEAX	Pleasant Hill	MO
KBLX	Billings	MT	KEMX	Tucson	AZ
KBMX	Birmingham	AL	KENX	Albany	NY
KBOX	Boston	MA	KEOX	Fort Rucker	AL
KBRO	Brownsville	TX	KEPZ	El Paso	TX
KBUF	Buffalo	NY	KESX	Las Vegas	NV
KBYX	Key West	FL	KEVX	Eglin AFB (NW FL)	FL
KCAE	Columbia	SC	KEWX	San Antonio	TX
KCBW	Caribou	ME	KEYX	Edwards AFB	CA
KCBX	Boise	ID	KFCX	Roanoke	VA
KCCX	State College	PA	KFDR	Frederick	OK
KCLE	Cleveland	OH	KFDX	Canon AFB	NM
KCLX	Charleston	SC	KFFC	Atlanta	GA
KCRP	Corpus Christi	TX	KFSD	Sioux Falls	SD
KCXX	Burlington	VT	KFSX	Flagstaff	AZ
KCYS	Cheyenne	WY	KFTG	Denver	CO

## Appendix C: NEXRAD Radar Sites

ID	Location	State	ID	Location	State
KFWS	Fort Worth	TX	KLTX	Wilmington	NC
KGGW	Glasgow	MT	KLVX	Louisville	KY
KGJX	Grand Junction	CO	KLWX	Washington	DC
KGLD	Goodland	KS	KLZK	Little Rock	AR
KGRB	Green Bay	WI	KMAF	Midland	TX
KGRK	Fort Hood (Granger)	TX	KMAX	Medford	OR
KGRR	Grand Rapids	MI	KMBX	Minot	ND
KGSP	Greer	SC	KMHX	Morehead City	NC
KGWX	Columbus AFB	MS	KMKX	Milwaukee	WI
KGYX	Portland	ME	KMLB	Melbourne	FL
KHDX	Holloman AFB	NM	KMOB	Mobile	AL
KHGX	Houston	TX	KMPX	Minneapolis	MN
PHKI	South Kauai	HI	KMQT	Marquette	MI
PHKM	Kohala	HI	KMRX	Knoxville	TN
PHMO	Molaki	HI	KMSX	Missoula	MT
KHNX	San Joaquin Valley	CA	KMTX	Salt Lake City	UT
KHPX	Fort Campbell	KY	KMUX	San Francisco	CA
KHTX	Northeastern Alabama	AL	KMVX	Fargo/Grand Forks	ND
PHWA	Hawaii	HI	KMXX	East Alabama (Carrville)	AL
KICT	Wichita	KS	KNKX	San Diego	CA
KICX	Cedar City	UT	KMQA	Memphis	TN
KILN	Wilmington	OH	KOAX	Omaha	NE
KILX	Central Illinois (Lincoln)	IL	KOHX	Nashville	TN
KIND	Indianapolis	IN	KOKX	New York City	NY
KINX	Tulsa	OK	KOTX	Spokane	WA
KIWA	Phoenix	AZ	KPAH	Paducah	KY
KIWX	Northern Indiana	IN	KPBZ	Pittsburgh	PA
KJAX	Jacksonville	FL	KPDT	Pendleton	OR
KJGX	Warner Robin	GA	KPOE	Fort Polk	LA
KJKL	Jackson	KY	KPUX	Pueblo	CO
TJUA	San Juan	PR	KRAX	Raleigh/Durham	NC
KLBB	Lubbock	TX	KRGX	Reno	NV
KLCH	Lake Charles	LA	KRIW	Riverton	WY
KLIX	Slidell (New Orleans)	LA	KRLX	Charleston	WV
KLNX	North Platte	NE	KRTX	Portland	OR
KLOT	Chicago	IL	KSFX	Idaho Falls	ID
KLRX	Elko	NV	KSGF	Springfield	MO
KLSX	St Louis	MO	KSHV	Shreveport	LA

<b>ID</b>	<b>Location</b>	<b>State</b>	<b>ID</b>	<b>Location</b>	<b>State</b>
KSJT	San Angelo	TX	KUDX	Rapid City	SD
KSOX	Santa Ana Mountains	CA	KUEX	Grand Island	NE
KSRX	Western Arkansas	AR	KVAX	Moody AFB	GA
KTBW	Tampa Bay	FL	KVBX	Vandenberg AFB	CA
KTFW	Great Falls	MT	KVNX	Vance AFB (Enid)	OK
KTLH	Tallahassee	FL	KVTX	Los Angeles	CA
KTLX	Oklahoma City	OK	KVWX	Evansville	IN
KTWX	Topeka	KS	KYUX	Yuma	AZ
KTYX	Montague	NY			

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